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**Course of
Study
for the**

**District Schools
of
Michigan**

**Eleventh Edition
1914**

**By the State
Superintendent
of
Public
Instruction**

COURSE OF STUDY

AND

MANUAL OF METHODS

FOR THE

DISTRICT SCHOOLS

OF

MICHIGAN

REVISED AND PUBLISHED BY

FRED L. KEELER

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION

ELEVENTH EDITION

NEW YORK
OF
COLUMBIA

LANSING, MICHIGAN

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1914

"RELIGION, MORALITY AND KNOWLEDGE BEING NECESSARY TO GOOD GOVERNMENT AND THE HAPPINESS OF MANKIND, SCHOOLS AND THE MEANS OF EDUCATION SHALL FOREVER BE ENCOURAGED."—*Ordinance of 1787.*

TO THE
LIBRARY OF THE
CONGRESS

WORK THAT ENDURES

If we work upon marble, it will perish; if we work upon brass, time will efface it; if we rear temples, they will crumble into dust; but if we work upon immortal minds, if we imbue them with principles, with the just fear of God and love of our fellow men, we engrave on those tablets something which will brighten to all eternity.

DANIEL WEBSTER.

44,000

THE STAR SPANGLED BANNER

It is not a painted rag; it is a whole national history.—Beecher.

The St. Nicholas flag will suggest many interesting exercises. If possible a large flag should be procured; at least place the outlines of one upon the blackboard, coloring while studying.

With primary pupils give a few leading facts connected with the history of the colony represented by the first stripe and, when they can state them, *color* the stripe with crayon; then take the second, continuing until pupils can give the facts of all the colonies represented by the stripes.

A flag might also be made upon heavy cardboard or pasteboard and the stripes cut out. Then have a flag-building exercise, letting each pupil take a stripe, tell what he can concerning the colony, and place it in its proper order. Whatever method is used, study the work in connection with a United States map.

Use also pictures, history stories, patriotic poems and songs. Many incidents, catch-words, and associated facts will help pupils to remember the order of the "star-states." For example, Vermont, the *first* "star state;" Kentucky and Tennessee the "neighbor states."

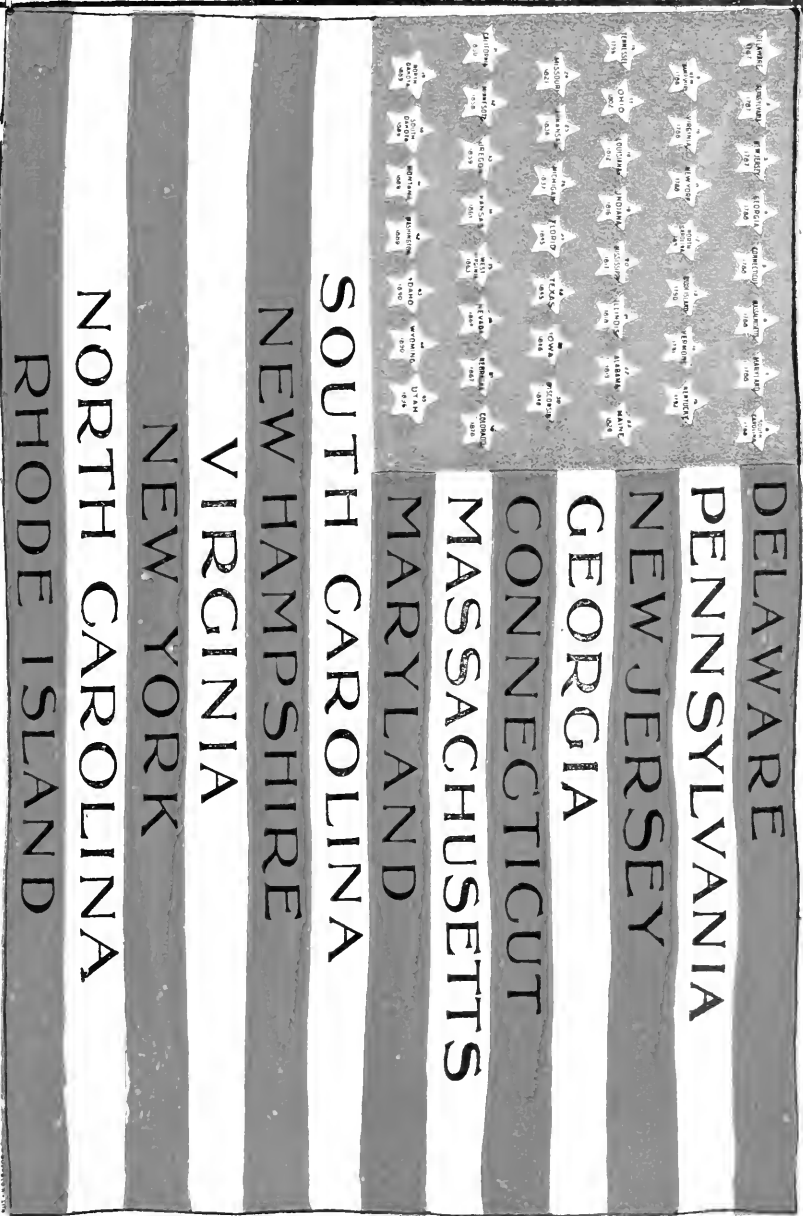
Take next the six "see-saw" states, first a northern, then a southern. Explain the jealousy of the North and South, how they were like selfish children, each afraid the other would get the advantage. Associate with Maine, the "Pine Tree State," the thought of lumber for the many buildings necessary in the growing country; with Missouri, the slavery question and Missouri Compromise; with Michigan, the "home state" idea; with California, the "Golden State," the discovery of gold and consequent excitement, contrasting with the Klondike of today; with Kansas, its central location, giving an idea of the vastness of our country.

Finally, let every lesson teach that for which the flag stands. Emphasize the growth or rather the *growing together*, of the colonies and territories up to the present complete union. Then teach our "*E pluribus unum*" and its significance.

'Tis the star-spangled banner! Oh, long may it wave
O'er the land of the free and the home of the brave!

Francis Scott Key.

TO THE
AMERICAN



THE ST. NICHOLAS FLAG.

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PREFACE

Compiler's section 22 of the general school laws of 1913 provides that the Superintendent of Public Instruction shall prepare and have printed a course of study for the district schools of the state, except city school districts, which *shall be pursued in all district schools* in the state.

This is the eleventh edition of the Course of Study. The work in penmanship, physiology, history, geography, music and bookkeeping has been revised. Recognizing the value of play in education, it has been deemed advisable to include suggestions along this line. The changes made are, we believe, along the line of the natural evolution in education. The present organization must be improved and better conditions as to buildings and equipment must be provided in order that the most effective work can be done.

The tendency in teaching is away from complete dependence on the text. More and more we must come to the truth, that books alone can never educate. The personality of the teacher is the big factor.

Fred L. Keeler

Superintendent of Public Instruction.

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INTRODUCTION

SUGGESTIONS TO TEACHERS

Fundamentals: loyalty, thoroughness, accuracy, speed.

Make and keep in a book provided for that purpose an outline of what you expect to accomplish in each of your classes during each day. Specify the subject to be studied; the ground to be gone over; devices you will use; points and topics you desire to emphasize; any habits that you desire to form or reform; what you will do, and how, and why. All lessons should be definitely planned for to-morrow's work and written in your plan book. Do not write in your plan book during school hours. Keep this book in the schoolroom ready for your own use and for inspection by the superintendent or commissioner.

Carefully correct and supervise all written work done in your school. So much is absolutely imperative. This will, however, be of no avail unless the pupil in some way corrects his own errors. This may be done by re-writing, perhaps in some other way.

Have exercises at least three times a week in sight reading of suitable selections not previously studied by the pupils.

In all recitations, call upon dull, slow pupils more often than upon the bright, quick pupils.

Insist upon absolute, prompt, and unquestioning obedience. Do not "baby" the pupils. Do not notice slight injuries nor small griefs. Teach pupils to be self-reliant and self-helpful. Insist that all such work as passing paper, pencils, books, collecting and arranging, etc., shall be quickly done by the pupils and not by the teacher.

Insist that all pupils shall speak distinctly and loudly enough to be heard, and, more important, that the speech shall be articulate. On the other hand, the teacher should speak in a low, pleasant, distinct voice. Pupils are often encouraged in indistinct speech by standing too near the teacher during a recitation. Let every teacher guard against talking too much. The talking teacher is always an unskillful teacher. There should be the minimum amount of talk on the part of the teacher and the maximum on the part of the pupil. Your work is effective if you talk little and your pupils talk freely.

Insist upon quickness of movement on the part of all the pupils at all times. Physical quickness and alertness tend to produce mental quickness and alertness. Insist upon activity. Do not allow loafing and dawdling about anything. Everything must be done with a snap and vigor that savors of military discipline. Make things move.

Cultivate in your pupils, whether in speaking, reading, or singing, high pitched, soft voices.

During the rest period have the pupils play games which call for physical activity and which will engage as many pupils as possible. Ordinary calisthenics are of doubtful value.

Take up all the time of the recitation period in recitation, not in getting ready, nor in telling stories, nor anything that detracts from the subject in hand. For example, the time for reading recitation ought to be spent mainly in reading. Plan things so that your moves will count. Your hours of work are few. They ought to be intense in their earnestness. Teachers often unintentionally fool away a great deal of time.

Be definite in the assignment of lessons. Tell the pupils what to do and how to do it. Young pupils cannot plan for themselves.

All geography and history work should be taught topically. The pupil should

be required to recite from topics without question, suggestion, or correction from anyone until his recitation is finished. Teach pupils to talk connectedly on a topic for several minutes without interruption.

It is especially true in the first four grades that the teacher is the only source of inspiration. All the pupil gets he gets in the recitation. Attention is secured only through interest. The child's mental habits are formed almost entirely in the primary school, hence the importance at this stage of careful and skillful teaching.

Insist on intelligent, ready, dramatic, pleasant reading. Do not allow for any reason, or at any time, hesitation or monotonous word-calling and have it pass for reading. See to it that when lessons have been assigned no pupil attempts to read a sentence until he is master of its meaning and every word in it. He then should read promptly, intelligently and fluently.

As a rule teachers should not sit during recitation periods. The teacher who sits during a recitation is not likely to be either interested or interesting. Stand in front of your class.

Each teacher should have a Course of Study and become familiar with it.

Cultivate in pupils a regard for school and public property. Care of schoolroom and tidiness of person make for this end.

Teachers of whatever grade should assist in maintaining a spirit of unity, loyalty, and service among the members of the profession.

WRITING

This Manual attempts to place upon writing the emphasis which the subject deserves. The teaching force of the state is at present deficient in the teaching of writing. The teacher herself must *master* the subject before she attempts to teach it. This is by no means an unreasonable requirement. An hour a day for twelve weeks spent in earnest study and diligent practice will give any teacher the ability to teach writing almost with expertness. The outlines given in this Manual are the result of successful experience. They will be found workable in all details if faithfully followed.

LANGUAGE

We desire above all things to emphasize the usefulness and desirability of oral training and to discourage the excessive amount of written work on the part of pupils. Young children should not be allowed to do any written work in language. The ability of a person, young or old, to stand upon his feet and in the presence of his fellows state clearly what he thinks or knows or feels, is of the greatest value to the individual. This kind of ability is too often repressed or undeveloped by the excessive amount of written work.

The person who can state clearly what he thinks or feels or knows, and can then write correctly what he has said, has had the best training in English. The ability to write pre-supposes very little technical knowledge aside from the ability to form the letters and spell the words. One must know only the simplest rules of capitalization and punctuation. These can be taught in a very few brief lessons, while the ability to speak in public grows with the performance of the act of speaking in public. If the pupil has a topic on which he is to recite or speak, train him to tell all that he knows about this topic without question, prompting, suggestion, or criticism. After this oral work is completed brief questions or suggestions may be used to bring out any important thing that has been omitted.

The criticism of errors in speech is of doubtful value. One forms his habits of speech long before he comes to school. A mere direction on the part of the teacher to the pupil to use another form will not change a bad habit. If one is habituated to an error it will never be effectively corrected until he does it himself from his own inner consciousness. Everyone who has an unfortunate habit of speech will testify to this in his own case. Constant nagging of children and constant correction of errors rather interferes with a free development of ideas or with fluency of speech. Train pupils for fluency and hope for correctness at some future time.

In all grades, the work will consist of story-telling; memorizing poems; narratives and descriptions based on nature study, investigations, geography, history, and picture study; and drills on correct forms. The work should be progressive with each year.

There should be no attempt to teach technical grammar, one of the hardest subjects in the school curriculum, below the seventh grade. The so-called language books are of doubtful utility except as they may suggest to the teacher.

The value of a teacher may be estimated by the fluency of speech which she secures from her pupils. This ought to be in inverse ratio to the amount of talking done by herself. A talking teacher is ineffective.

ARITHMETIC

In arithmetic, young children should not be taught to work with pencil and paper. All operations should be mental and oral. We have in times past compelled pupils to study written arithmetic for eight years with a knowledge of the fact that they did not know very much about it after they got through. One great cause of this failure in the teaching of arithmetic has been too much written work. Pupils ought to be drilled in the fundamental operations until they possess a degree of skill that will make operations automatic. Oral work in arithmetic is most important; written work, except to pupils of maturer age, least important. It is very easy to assign written work. Pupils are occupied; the room is still; written work is much more pleasant for the teacher, but it is of doubtful utility in creating and promoting facility, alertness, accuracy. Young children have reasoning powers *imperfectly* developed. Written arithmetic should not come until the reasoning powers of the child begin to develop and he becomes mentally able to solve problems. All the work of an ordinary written arithmetic, a book containing approximately two hundred pages, ought certainly to be completed in two years.

The arithmetic work in the first four grades should all be oral. There should be absolutely no written work. The processes should all be taught and then followed by rapid drills. The drill work should be both upon abstract and concrete examples, devoting most of the time to the former. The concrete problems should involve the processes which have been taught and should relate to real conditions as far as possible, such as purchases for the home and actual business life. A textbook may be used by the teacher but not by the pupil. All work must be done in class recitation. There should be no seat work in numbers.

GEOGRAPHY

Outline prepared by Prof. R. D. Calkins of the Central Michigan Normal School.

It is not the purpose of this course to minimize the importance of the textbook of geography in the rural school. The text ought and must form the basis for the work, although it is most earnestly recommended that every teacher learn how to supplement the text wisely with geographical readers, magazine articles, newspaper clippings, pictures, field trips, excursions, etc. The suggestions in this course have in mind certain needed reforms in geography teaching and the needs and difficulties of the average teacher using the average text, rather than to give a basis for the work that shall be independent of the text.

The study of geography with daily recitations is to begin in the third grade where one whole year should be devoted to out-of-door and home geography. No book is to be used, the work covering for the home region those topics usually covered under the so-called home or introductory geography of the average text, the difference in the work being that, in the one case, it is based upon observation and experience, while in the other it is usually the committing to memory of the more or less meaningless text.

Most schools will be using a two-book series of text. It is planned that the first of these books will be taken up in the fourth grade, the use of the text sometimes preceding and sometimes following the class work on a given topic, according as the best judgment of the teacher dictates. This book should be completed by the close of the fifth grade. The regional geography in the fourth and fifth grades is

to cover the chief geographic regions of the earth. Many pupils drop out of school in the fifth or sixth grade. It is very important that they know something of the various regions of the earth before they leave school.

The second, or advanced text, should be begun in the sixth grade and continued through the seventh and eighth grades. The work in these grades is to be more intensive in character and to bring out those various geographic relations which constitute the soul of modern geography.

HISTORY

History can be assimilated only through the imagination, hence this faculty should be assisted by a proper use of historical fiction, maps, pictures, etc. Biography is one of the most valuable adjuncts to the teaching of the subject. Pupils should be made to see that our present social and political conditions are but the outgrowth of previous conditions. The study of civics should be closely correlated with the work in United States history. As much attention as possible should be paid to local history and the history of the State. Perhaps the condition that most seriously interferes with the successful teaching of the subject is lack of time. Under the present system of one-room schools, the most that can be done to overcome this is through combining classes or a plan of alternation. Under all conditions the teacher is by far the most important factor in good history teaching.

(See Bulletin No. 6, Suggestions for Teaching History.)

ELEMENTARY AGRICULTURE

(See Appendix.)

The plan of work is given in the Appendix. The purpose of the nature study in the elementary grades is to lead the child to observe his environments and to lead him to know and to love the nature with which he is surrounded. Nature study confined to books is doomed to failure, but as every natural object cannot be studied, it must be left to the teacher to select those things which may be of special local interest or those subjects from which one can secure the best esthetic culture. The practical must always be considered in any course of nature study and such a course if properly selected and presented will prepare the child for more specific studies in agriculture proper as he reaches the later grades. This work must not interfere with the regular course of study covering the common branches. All subjects like nature study, manual training, etc., must be made subsidiary to that work. Agriculture is to be given during one-half year of the eighth grade. A textbook is to be in the hands of the pupils. The work to be of value must be practical.

DRAWING

Because many fail to appreciate how drawing enriches many of the activities of life there is a tendency to ignore it. Its practical value along the line of manual training should be emphasized. Accurate handwork such as constructive work in drawing, has a high educative value for pupils. It prepares pupils for manual training and other work in schools of higher grades. It calls for originality, perseverance, self control and motor activity. It can be used with great benefit to the pupil in the study of physiology, nature study, geography, in fact nearly all school work. Teachers should use the drawing suggested herein both in the interest of the pupil and in their own interest, as a time saver.

The exercises are suggestive. They teach the pupil how to get certain effects. This knowledge can and should be used by the pupil for self-expression. His drawing, like his language, should be the spontaneous illustration of what he has in mind. Encourage pupils in "making pictures."

In schools having but one teacher drawing may be alternated with music.

MUSIC

The work in music, as given in the Appendix, is suggestive and is given in the hope that teachers will not do less in any school than is outlined and that many will be able to do much more by enlarging along the lines given. In music and in drawing have constantly in mind that the main purpose is to develop artistic sense.

APPENDIX

Only such subjects as are to be taken up by individual grades are named under those grades. Suggestions for all other work, including drawing, nature study and agriculture, penmanship, music, physiology and sense training are given in the Appendix. Such work can be given to the school as a whole or to several grades as one class. An extensive outline of work for sense training is given. This will be found of value to the teacher in all of the elementary grades. Work in physiology must be given in order to comply with the law.

THE SCHOOL LIBRARY

"As a man thinketh, so he is." As a pupil reads, so he thinks. Reading, then, is a powerful factor in character-building. The selection of school library books is therefore one of the teacher's greatest responsibilities. He should know the character of every book in the school library, and should request the removal of such as are morally depressing.

The Teachers' Reference Library only is published in the Course of Study.

Act 323 of 1913 provides as follows: *With the cooperation of the state librarian, he (the Superintendent of Public Instruction) shall prepare, at least once in every two years, and furnish copies of such lists to each township and school officer entrusted with the care and custody of their respective libraries, except city school libraries, and high school libraries, from which lists the said school officers shall select and purchase books for their respective libraries.* In accordance with this act the list has been prepared and all books purchased for the libraries designated must be selected from the list.

HUMANE EDUCATION

Act 227 of 1913 provides as follows: *For the purpose of lessening crime and raising the standard of good citizenship, and inculcating the spirit of humanity, such humane education shall be given in the public schools as shall include the kind and just treatment of horses, dogs, cats, birds, and all other animals. In every public school within this state, a portion of the time shall be devoted to teaching the pupils thereof kindness and justice to, and humane treatment and protection of animals and birds, and the important part they fulfill in the economy of nature. It shall be optional with each teacher whether such teaching shall be through humane reading, stories, narratives of daily incidents or illustrations taken from personal experience. This instruction shall be a part of the curriculum of study in all the public schools of the state of Michigan. The principal or teacher of every school shall certify in his or her reports that such instruction has been given in the school under his or her control.*

GAMES

Repeated experiments have shown that children in primary grades, devoting only half of the usual time to the usual school subjects, and the balance of the school day to play, slightly outstrip in examinations on school subjects children of the same age, grade, and inherited tendencies, who are held during the entire school period to fixed lessons in the schoolroom.

The instinct for play is one of the most fundamental instincts of childhood.

"Infancy is for play" says Professor Groos, and play forms the entire education of young wild animals. Modern pedagogy recognizes the fact that play is one of the most natural mediums through which mental, moral and physical habits become fixed in children.

The few games, singing games, and simple folk dances found in this outline, are, for the most part, based upon old race activities which played a vital part in the struggle for survival of the ancestors of all nations. The nervous system of the individual child is tuned to receive a maximum of benefit from engaging in these race activities. Froebel, John Dewey, G. Stanley Hall, and others have pointed out this vital nature of play in the normal mental development of children.

Nearly every large city in the country is spending tens of thousands of dollars for playgrounds, playground equipment, and play leaders. Rural schools are the most fortunate of all schools in the possession of "a place to play." The noon period and the two recess periods afford time for play. But rural children as a rule know fewer good games than city children. Too much of this valuable time is mis-spent in purposeless pranks and loafing about the schoolhouse and outhouses. Rural districts also need games for evening social gatherings. The children must have play leaders and the Department of Public Instruction asks each teacher of a Michigan district school to teach the games described in this Course of Study as conscientiously as any other school work. The teacher will get a direct reward in the increased friendliness and orderliness of the pupils.

For descriptions of the games and detailed directions, see Appendix.

OUTLINE OF THE COURSE

GRADE	1	2	3	4	5	6	7	8
READING.....	Reading	Reading	Reading	Reading	Reading	Reading	Reading	Reading
SPELLING.....	Spelling	Spelling	Spelling	Spelling	Spelling	Spelling	Spelling	Spelling
WRITING.....	Writing	Writing	Writing	Writing	Writing	Writing		
LANGUAGE.....	Language Oral	Language Oral	Language Oral	Language Oral	Language Oral	Language	Grammar	Grammar
ARITHMETIC.....	Sense Training	Arithmetic Oral	Arithmetic Oral	Arithmetic Oral	Arithmetic	Arithmetic	Arithmetic	Arithmetic
GEOGRAPHY.....			Geography Oral	Geography	Geography	Geography	Geography	
HYGIENE & PHYSI- OLOGY.....	Hygiene Oral	Hygiene Oral	Hygiene Oral	Hygiene Oral	Hygiene Oral	Hygiene Oral	Physiology $\frac{1}{2}$ year	
HISTORY.....						History Stories	History $\frac{1}{2}$ year	History
CIVICS.....								Civics $\frac{1}{2}$ year
AGRICULTURE.....								Agriculture $\frac{1}{2}$ Year

COURSE OF STUDY

FIRST GRADE

READING—Chart, first reader and supplementary reading.

SPELLING—From reader.

SENSE TRAINING—Leading to arithmetic and language.

WRITING—See Appendix.

LANGUAGE—Oral.

Textbook—Reader

READING

Purpose.—To gather thought from the printed page.

All reading consists in forming ideas and thoughts occasioned by the printed or written words; and the work divides naturally into primary intermediate and advanced reading. The plan of teaching includes, *first*, preparation of the pupil by the use of language lessons, talks about familiar objects, etc.; *second*, much practice in reading requiring the formation of correct concepts by the use of language. An essential to good reading is a clear understanding of what is read.

PREPARATORY

Before beginning in this subject, some time, possibly a week or two, should be devoted to developing the perceptive faculties of pupils. Many children upon entering school have little notion of any formal way of doing things. They now enter upon a new field, and it is the teacher's duty to acquaint the beginners with their own abilities.

When the child enters school, he has from four hundred to one thousand words as his spoken vocabulary. These words he knows by sound, but the time has now come when the eye should be trained so that certain marks with chalk or ink shall present to his mind the same concepts presented by the known sounds. In the first years of school every effort of the teacher should have in constant view the education of the *eye*, the *ear*, the *hand*. To this end the following exercises are suggested:

For the Eye—

1. Call attention to some object or picture in the room and allow each pupil to tell what he sees. The following objects will furnish material for many lessons: flowers, fruit, clock, table, doll, desk, stove, silver dollar, etc.

2. Call attention to direction, distance, location, color, form, size, and weight, leaving the pupil to form his own conclusions.

For the Ear—

1. Call upon the class to listen to the ticking of the clock.

2. Make very light strokes upon the desk and see who can detect the sound.

3. Procure several different kinds of metal and wood; attach a string to them, hang them upon pegs, and with a piece of dry wood tap them, letting the pupils detect the different kinds of wood or metal.

4. Give short sentences for the pupils to repeat.

5. Give directions as to movement: right hand up, left hand up; turning face to the left, face to the right; marching forward, backward; etc.

For the Hand—

Handling objects to determine texture, temperature, and whether they are rough or smooth, hard or soft, rigid or flexible. This might be followed by the use of building-blocks, paper-folding, clay-modeling, etc.

Suggestion.—In connection with this work, the teacher should note very carefully and systematically each pupil's peculiarities or weaknesses. Note dullness of hearing or seeing, etc. Seat pupils in class and in the room with reference to this. Be sure that pupils *with defective hearing* always *hear* what you say, and *that those with defective sight* see the work upon the blackboards. Test by asking them to repeat what you say or to tell what you have before them. Many a bright pupil has been called "dull" because he could not hear or see all that was given by the teacher.

Correlation.—Let the new words in reading be used in the language work, in spelling, and in conversation. This repetition of words deepens their impression and they are thus more thoroughly memorized. The teacher should give constant attention to words which are new to pupils, and as far as possible persuade the pupils to use such words in their own conversation thus building up a vocabulary.

CLASS WORK

When the child is free from the embarrassment of new surroundings, he should be taught words and the following plan is suggested:

Suppose you wish to teach the expression "an orange." Take an orange to school, or better, one for each pupil in the class, keeping them out of sight of the pupils. Place very carefully upon the blackboard a number of different words among which in several places is the word or expression "an orange." You are now ready to call the class and teach the word. Excite the curiosity of pupils to know what you have for them. Let them see the shape of the objects through the sack, feel them, and smell them. The more mysterious you can be about this and the more interest you can excite, the better. When the pupils have guessed what you have, let them handle the oranges and talk about them. When their attention has reached the highest point, tell them that you have *an orange* upon the board, at the same time pointing it out to them.

Now start the "hunting" game for the other oranges. They will, if you have made this lesson impressive, find every one. When this is done, excuse the class at once, but do not let the lesson slip from their minds. Call their attention repeatedly to this word or expression, asking them to tell you what it is and to go to the board and point each one out. The word should also be carefully written or printed upon a card for each pupil. These cards might be mixed with other cards of the same size which contain other words quite dissimilar in appearance and the pupils play the "game" of finding the oranges. If you have never put printed cards into the hands of your pupils to be used in some manner similar to the above you have missed a great help in teaching beginners. Let all such work, whether written or printed, be as nearly perfect as you can make it. Each word should, until the child has become very familiar with it, look always the same. With poor writing or spelling the pupils will make slow progress.

While the pupils have the oranges in their hands it is a good plan to get a statement from them regarding the orange. When you have secured some statement like this, "I have an orange" or "Mary has an orange," tell the pupils you will let the chalk say that and place it upon the blackboard, saying aloud as you write, "I have" "an orange." Then have the pupils read it, grouping as indicated above. Let them point out the groups as they read. Each new name-word taught can be substituted for "an orange" and so make a sentence each day. Teach in this manner two or three common name-words with the articles prefixed, as *an apple, an orange, a boy, a cat, the dog*, pronouncing the expression as if it were a word of

two syllables like *about*. Next add several adjectives, as, *a black dog, a white cat*, etc. When the above words are learned thoroughly, a few sentences should be taught, as, *I see, we see, you see*. It is a good plan and gives vitality to such work as this last to let the pupils mention something that they actually do see and you add that to the expression, only the essential thing in beginning reading is to have the pupils really appreciate that they are giving forth with chalk actual experiences. When the child realizes that he can give an experience, as, *I see John*, with chalk he has taken a long step toward appreciating the vital element in reading.

Teach also the expressions *I have, you have, he has, she has*, also, pupils' names with *has*—*Mary has, Henry has*, etc. In teaching the names of objects, use the objects if possible, letting pupils handle them in various ways; e. g., Tell Mary to get what you write upon the board, writing "A red ball," "A white doll," "A black book," etc. In teaching action words, suit the action to the word. Write upon the board "Tom jumps," "Henry runs," "Charles throws," "Mary laughs." Let Tom, Henry, Charles and Mary illustrate the thought with the proper action. This will vitalize expressions and make them parts of real experiences. Arrange the words taught in as many different sentences as possible.

If some child by struggling with some sentence containing a new word makes out such word, do not teach the word by itself but in the sentence. Do not hurry. Avoid getting on hand a large number of partially learned words; words should be repeated often enough so that a few days of disuse will not cause them to be forgotten. No letters should be taught at present. If a child has learned his letters every effort should be made that he should cease to see them. He should see words and groups of words as wholes until he has a vocabulary of at least fifty words and expressions.

PREPARATION FOR ELEMENTARY SOUNDS

After the above work is well begun preparation should be made for the teaching of sounds and building of words. The child should be taught to distinguish sounds in words. To do this, introduce a "game" something as follows:

First. Place upon the blackboard three or four familiar words beginning with different sounds, as, *may, boy, see, fail*.

Second. Pronounce the words and have the pupils pronounce them until they are vividly before the child's mind. Now first pronounce the first sound in one of the words and let the pupil who can first tell which word you are going to pronounce point it out. Give him a mark of one point and the pupil who first gets five points wins.

Third. Change about and give the latter part of the word, as, *oy, e, ail*, and let the pupils tell which word you are going to pronounce.

Fourth. Give the last sound only of each word, as of *n, e, l*. Later, take more difficult words.

Fifth. Let a pupil give a sound and you tell what word he is to pronounce. This work cultivates attention and concentration and educates the ear to hear sounds in words as well as to hear the words.

Finally the teacher pronounces words by sounds only and requires pupils to think them out and pronounce the word in the ordinary way but spelling by sound should not yet be attempted.

After the child has learned from forty to fifty words put the letter *s* upon the board. Teach its sound; then pointing to this letter in various words, let the pupil give its sound until, whenever seen, the hissing sound comes to the mind. Then annex it to the word *cat*, letting the child add the sound, making *cats*; erase and annex until pupils instantly recognize and pronounce the word correctly, either with or without *s*. Then use this letter after other words and also prefix it to words already taught as *at, s-at; old, s-old; in, s-in*, etc. When the *s*-sound is thoroughly learned, teach *r* in the same way, building *r-at, r-an, r-ing*, etc. Continue teaching the sounds of consonants in connection with reading, using them to form new words from those already taught. Have daily exercises in sight reading.

Many difficult sounds are easily taught by the following plan:

Call *m* the "mother-sound" and have pupils pronounce the word *mother* with you, drawing out the *m*-sound more and more until you "forget to say the rest of the word;" then tell them that *m* means that sound, and build such words as *m-at, m-an, m-old*, etc. Teach *f* as the "father-sound." Also practice dropping letters as *m* from *man*, *b* from *bat*, *f* from *fan*, letting pupils determine what the

word is that remains. When the sound of a letter has been taught, drill upon the same until seeing the letter instantly suggests its sound, and use the letter in forming a number of words, before trying to teach another sound.

Each new word formed should be used in sentences until the eye knows it instantly.

As soon as the required number of words has been taught in this way and read by pupils from chart or from words made on the board by the teacher, the child should take the book. If he has been properly taught from the chart and board, he is now able to read several pages of the reader at sight. From the start try to have him get a mental picture of what he reads.

Individual faults should be carefully observed by teacher, such as faulty pronunciation, articulation, enunciation, and qualities of the voice, and cautiously corrected, but no corrections should be made in a manner to make the child self-conscious.

SUGGESTED OUTLINE

WORDS FOR THE FIRST MONTH

Teach in the order given the following:

A boy, I see, I see a boy; a man, the man, a cat, a cow, a dog, a hen, the doll, the hat, the egg; and, white, black, little, big. Use all these with *I see* and *see*. Teach such additional words as come into the pupils' experience, e. g., if Mary found a rose make a sentence with the rose or about the rose. If John lost his knife have some sentence about John's knife. There is probably no one phase of teaching beginners to read which more quickly and surely makes reading a reality than incorporating into their reading work these little impressive, personal experiences.

WORDS FOR THE SECOND MONTH

I have, the boy has, is, man, book, books, ran, men, wood, yes, no, play, ride, ear, nose, eyes, he, she, fish, water. Use these with *I have, the boy has*, and make questions beginning with *is*. Teach such additional words as will best prepare for the building of new words and also that grow out of the pupil's experience. Fifty or sixty words can be learned usually in the first two months of school.

WORDS FOR THIRD MONTH

Teach words to be used as base words and then after using the said words in sentences until the child is perfectly familiar with them use them to build new words upon.

From the base word *at* build c-at, r-at, m-at, f-at.

From the base word *it* build h-it, m-it, s-it, f-it, b-it.

From the base word *old* build s-old, f-old, m-old, h-old, c-old, t-old, g-old.

After these words are built, use them repeatedly until they are known at sight.

Teach sounds of *ch*, "sneezing sound;" *sh*, "keep still sound;" *c* (hard); *p* and *w* (*oo*); then build cat-ch, mat-ch, pat-ch, ch-at, ch-ap, ch-ip, sh-ip, di-sh, wi-sh, fi-sh.

Teach *all* and *car*, using them in sentences; then build w-all, t-all, f-all, b-all, f-ear, t-ear, h-ear, using in sentences until the eye knows them readily.

Teach this, that, good, bad, tree, leaves, apple, school, teacher, scholar, one, two, three, where, squirrel, mouth, right, left, smell, jump, and such other words as children are accustomed to use.

Break words into parts, and put them together again, having the pupils name the parts and the whole, e. g., ray, p-ray, s-pray, spray, pray, ray, ay; r-ay, t-ray, s-tray, stray, tray, ray, ay. Repeat such work many times until pupils give the various words or parts of words quickly.

Throughout all this work the teacher should select and teach words from the first reader that the pupil is to use when a book is put into his hands. He then will find the first part of his reader old material newly arranged.

THINGS TO BE NOTED

1. Choose only such words as the children are accustomed to use.
2. Create a need for every word before teaching it.

3. Always teach *the* and *an* in connection with other words.
4. Remember that beginners more easily learn such words as are quite dissimilar in appearance.
5. Keep a complete list of all words taught.
6. Use only one form of capital and small letter.
7. Ask pupil to read a sentence silently; then (looking at you) to tell what it is.
8. Insist from the first sentence that a child shall read naturally.
9. Teacher should not read for pupil, and neither teacher nor pupil should point to words while reading.
10. Do not allow pupils to *interrupt* the one reading with a correction.
11. Make the sentence the *unit* and, after the child has learned one or two verbs, incorporate every *new word* into several sentences, at first using only short sentences.
12. Do not ask beginners to study; they cannot study and should have no book until they know at least sixty words.
13. Do not try to keep pupils together in their work. Let each pupil learn words as rapidly as he can.

SEAT WORK

To aid the pupils in naming words at sight, use sentence-builders—cards containing the words written or printed on them. As soon as a word or two can be recognized at sight, the pupil should be required to build the sentences, using separate words on bits of cardboard. Continue building sentences in this way until fifty or sixty words have been taught. This will take from two to three months. The words should be taken from the chart or reader to be used, and it will also be found helpful to lead the child to build words by *sound* and to give him power to pronounce words that he has never seen.

SUPPLEMENTARY READING

Several different readers should be used so that the same selection may not be read until tiresome. Let every lesson be fresh. Reading “by turn” in the class is not advisable. Now is the proper time for teaching such details as position of hands, standing erect, keeping the chin in proper position, etc.

SPELLING

Method.—The preceding word-building should be the foundation of spelling, and from this point *letters*, as well as sounds, must be thoroughly taught. In doing this teach letters separately and teach the alphabet by rote as well. If pupils spell before using a reader, let them spell by ear and not by sight. After a reader is taken up, they should spell all the words in each lesson. Below is a suggestive outline.

Form lists of words as follows:—

1. From *at* {
 bat
 cat
 fat
 hat
 mat
 pat
 rat
 sat
 vat

2. From *an* {
 ban
 can
 Dan
 fan
 man
 pan
 ran
 tan
 van

3. From *it* {
 fit
 lit
 mit
 pit
 sit
 wit

4. From *in* {
 bin
 din
 fin
 gin
 pin
 sin
 tin
 win

5. From *et* {
 bet
 get
 jet
 let
 met
 net
 pet
 set
 wet
 yet

7. From *ut* {
 but
 cut
 hut
 jut
 nut
 rut

6. From *en* {
 Ben
 den
 fen
 hen
 ken
 men
 pen
 ten
 wen

8. From *un* {
 bun
 fun
 gun
 nun
 pun
 run
 sun

During this work teach that *a*, *e*, *i*, *o*, or *u*, is necessary in every word, and that they are called vowels.

Teach that final *e* lengthens the vowel, as—

at—ate
 bat—bate
 rat—rate
 fat—fate
 hat—hate
 mat—mate

ban—bane
 can—cane
 fan—fane
 man—mane
 pan—pane
 van—vane

Teach that two vowels together in a monosyllable *generally* give its name-sound the “long sound” of the first, as—

bet (e) beet
 bet (a) beat

met (e) meet
 met (a) meat

den (e) deen
 den (a) dean

net (a) neat
 set (a) seat

Following this suggestion drill on such words as these—

ail
 bail
 fail
 hail
 jail
 nail
 pall
 rail
 sail
 tail
 wail

fain
 gain
 main
 pain
 rain
 die
 fie
 hie
 lie
 pie
 tie

SYLLABICATION

Each syllable should be spelled separately with sufficient pause after it (if pronounced) to denote syllabication without pronunciation of syllables is an aid in teaching articulation, and its judicious use in lower grades is recommended.

WRITING

The first half of the year should be devoted to blackboard writing. The aim is to learn the letter forms. However, the child should write with freedom and a fair degree of speed. The chalk is held in a horizontal position, the first three fingers on top and thumb below; the pupil standing directly in front of the board and facing it; the left hand holding the eraser and placed behind the back. Guide lines hinder freedom, so they should seldom be used. The exercises and writing should be quite large—four or five inches in height—and in front of the face, the child stepping along as he writes.

We must eliminate cramped and jerky motions, and in order to do this, freedom and rhythm are necessary. The manner of counting for rhythm is immaterial so long as it is regular. To determine the count for an exercise or letter, the teacher should write it with freedom and note the impulses required. As a general rule, count for down strokes, but sometimes it is better to count for both up and down strokes, especially in the lower grades. The exercises and writing should have a uniform slant to the right. The letters and words used in reading are, as a rule, the best for practice in this grade.

When seat writing is taken up, use a large beginner's pencil and unruled paper. The letters from one to two inches high are more easily formed, then as the forms become fixed in mind they may be decreased gradually. The teacher should write the exercises and letters on the board or paper, before the pupils the same size and rhythm as she expects them to write. If any of the pupils do not get the form and rhythm readily, the teacher must take hold of the child's hand and guide it. The whole arm movement will be found more practicable in this grade; however, if any of the pupils can write with the muscular movement, so much the better.

All writing in the grade must be done under the eye of the teacher—do not give writing as "busy work."

LANGUAGE

(See Introduction and Appendix.)

The purpose of the work in the primary grades is two-fold,—the acquiring of ideas and the acquiring of words. Introductory to the work of developing the power of expression, is that of putting the child in possession of the right kind of ideas and knowledge to express. The first factor is selection. The materials should be such as will inspire and make the highest appeal to the imagination and emotions and must be gathered from the very choicest of the best works of all time, in literature, history, art and nature.

A large portion of the language development in primary grades must be accomplished through story-telling. The stories selected should be masterpieces of English. They should enlarge the imaginative powers and increase the vocabulary. Pupils should be required to retell a story told by the teacher and it should be repeated frequently. Do not allow pupils to select their own stories. The stories should include fairy-tales, folk-lore, nature stories, biographies, and the best stories of literature.

Work for clear articulation, distinct enunciation, and correct pronunciation. Aim to have the children acquire well-modulated, pleasing voices. Cultivated voices are quite as important as correct language.

A very important feature of the work is the dramatizing of stories and the memorizing of poems, and should be carefully planned and executed. There is no other way by which a full, pure vocabulary can be acquired as satisfactorily as in the memorizing of poems.

Nature furnishes unlimited resources for language work. Pupils should learn to see things; to recognize the flowers, trees and weeds; to know the growing things of their environment, the habits, growth and use. Study the birds and their habits. This and other similar work will furnish the child with interesting ideas to express.

The verb forms used by the children may be acted out, as *lie, fly, drink, throw*, and the use of the correct forms of each made habitual.

The names of persons, places, streets, points of the compass, may be familiarized and used.

The teacher should frame her questions so that answers may be given in complete sentences.

SUGGESTED STORIES

Aesop's Fables.
 Indian Child-Life.
 Happy Heart Family.
 The Snow Baby.
 A Visit to Dreamland.
 Nursery Tales.
 The Little Red Hen.

The Rabbit's Walk.
 Three Bears.
 The Bundle of Sticks.
 The Lamp and the Sun.
 The Wind and the Moon.
 Hiawatha Stories.
 Pippa.

POEMS TO BE MEMORIZED

Summer is Coming

Summer is nigh.
 How do I know?
 Why, this very day
 A robin sat on a tilting spray,
 And merrily sang a song of May.
 Jack Frost has fled
 From the rippling brook,
 And a trout peeped out
 From his shady nook.
 A butterfly, too,
 Flew lazily by,
 And the willow catkins
 Shook from on high
 Their yellow dust,
 As I passed by;
 And so I know
 That summer is nigh.

In the Heart of a Seed

K. L. Brown

In the heart of a seed
 Buried deep, so deep,
 A dear little plant
 Lay fast asleep.

 "Wake!" said the sunshine,
 "And creep to the light."
 "Wake!" said the voice
 Of the raindrops bright.

 The little plant heard
 And it rose to see
 What the wonderful
 Outside world might be.

Whole Duty of Children

Robert Louis Stevenson

A child should always say what's true
 And speak when he is spoken to,
 And behave mannerly at table;
 At least as far as he is able.

Child's Thought of a Star*Jane Taylor*

Twinkle, twinkle, little star;
How I wonder what you are!
Up above the world so high,
Like a diamond in the sky!

When the blazing sun is set,
And the grass with dew is wet,
Then you show your little light,
Twinkle, twinkle, all the night.

In the dark blue sky you keep,
And often through my curtains peep;
For you never shut your eye
Till the sun is in the sky.

Then if I were in the dark,
I would thank you for your spark;
I could not see which way to go,
If you did not twinkle so.

Where Go the Boats?*Robert Louis Stevenson*

Dark brown is the river,
Golden is the sand.
It flows along forever,
With trees on either hand.

Green leaves a-floating,
Castles of the foam,
Boats of mine a-boating—
Where will all come home?

On goes the river
And out past the mill,
Away down the valley,
Away down the hill.

Away down the river,
A hundred miles or more,
Other little children
Shall bring my boats ashore.

The Wind*Christina Rossetti*

Who has seen the wind?
Neither I nor you;
But when the leaves hang trembling,
The wind is passing through.

Who has seen the wind?
Neither you nor I;
But when the trees bow down their heads,
The wind is passing by.

The Man in the Moon

Old Rhyme, Anonymous

The Man in the Moon as he sails the sky
Is a very remarkable skipper
But he made a mistake
When he tried to take
A drink of milk from the Dipper.

He dipped right into the Milky Way
And slowly and carefully filled it.
The Big Bear growled
And the Little Bear howled,
And scared him so that he spilled it.

The Stars

May Moore Jackson

Do you know what the little stars do at night?
They play on a deep blue hill.
Mother Moon watches to keep them in sight,
For they're never, never still.

Do you know what the little stars do at dawn?
They sink in a sun-kissed sea,
And there they sleep till the day is gone,
As still as still can be.

The above may be supplemented by poems printed in previous editions of the Course of Study and by such poems as, *To Mother Fairie*, Alice Cary; *Obedience*, Phoebe Cary; *Little Dandelion*, Helen Bostwick; *Selections from Hiawatha*, Longfellow; *Dutch Lullaby*, Eugene Field; *Mother Goose Rhymes*; *Autumn Fires*, Robert Louis Stevenson.

*SENSE TRAINING LEADING TO ARITHMETIC AND LANGUAGE

(See Appendix.)

In the first grade the exercises are chiefly counting, making comparisons, and visualizing of simple combinations. The work is largely objective to create interest, and many illustrative devices are used for comparisons such as sets of blocks, cards, etc. This is the child's natural method of satisfying the needs of his developing mind. Teaching will be successful when it meets these needs. The teacher who knows the child knows that attention is a condition of thinking and interest a condition of attention.

The fundamental thing in the teaching of arithmetic is to induce judgments of relative magnitudes. The presentation regards the fact that it is the *relation* of things that makes them what they are mathematically. The products of the senses, especially those of sight, hearing and touch, form the basis of all the higher thought processes. Since mathematics deals with *definite relations of magnitudes* it suggests the need of creating definite ideas, and forbids presenting things as isolated, independent or absolute in themselves. If relations are to come into consciousness, the comparing which brings them there must take place.

It is the definite relations of magnitudes established by means of solids, surfaces and lines, that enable us to conceive or interpret the relations of quantities

*By permission of Ginn & Co., publishers, some material for the first and third grades has been taken from Spear's Arithmetics.

which cannot be brought within the range of perception. The ratios which we actually see are few but out of these grows the science of mathematics.

Give appropriate exercises in the following:

- (a) Sense training: sight, touch, hearing.
- (b) Visualizing of forms, relative positions, colors, pictures, etc.
- (c) Handwork in cutting, drawing, building of forms with blocks and tablets, shaping of forms with plastic materials, etc.
- (d) Ratio work in magnitudes with solids, tablets, drawings, etc.
- (e) Applications of this work with the simplest measures of length, volume and value; foot, yard; pint, quart, gallon; cent, nickel, dime; etc.
- (f) Simple problems based on ratios of quantities.
- (g) Visualizing of simple combinations.

(a) Sense training:

It is one of the first duties of the schools to test the senses and to devise means for their development.

Sight training:

Pupils find solids, surfaces, colors, etc. Compare with one another and familiar objects in the room and at home.

Show pupils the base of a cup, a cylinder or a cone, and tell them that it is a circle.

Conduct the exercises so that the doing will call forth variety of oral expression in telling what is done.

1. Find circles.
2. Find circles that are larger than others. Find circles that are smaller.
3. Find the largest circle in the room.
4. Find one of the smallest.
5. Find circles in going to and from school and at home, and tell where you saw them.

Finding forms of the same general shape as those taken as types is of the highest importance. Unless this is done pupils are not learning to pass from the particular to the general. They are not taught to see many things through the one, and the impression they gain is that the particular forms observed are the only forms of this kind. Unless that which the pupil observes aids him in interpreting something else it is of no value to him. Teaching is leading pupils to discover the unity of things.

Touch training:

Pupils handle solids.

1. Find one of the largest surfaces of each solid.
Example: This is one of the largest surfaces of this solid.
2. Find one of the smallest surfaces.
3. Find surfaces that are larger than other surfaces.
Example: This surface is larger than that one.
4. Find surfaces that are smaller than other surfaces.
5. Compare the sizes of other surfaces in the room.
6. Find the largest surface or one of the largest surfaces in the room.
7. Close the eyes, handle solids and find largest and smallest surfaces.
8. Cover the eyes; handle and tell names of blocks and of other objects.

These exercises for mental training are only suggestive of many others which teachers should devise. Be sure the exercises are suited to the learner's minds, and to their physical condition.

Ear training:

Have pupils listen and tell what they hear.

Have pupils note sounds when various objects are struck.

Pupils close eyes. Teacher strikes one of the objects.

Pupils tell which was struck. Teacher strikes two or more objects.

Pupils tell by sound the order in which they were struck.

Train pupils to recognize one another by their voices and by sounds made in walking.

Pupils close eyes and listen. Drop a ball or marble two feet, then three.

Pupils tell which time it fell the farther.

(b) Visualizing:

Place on the table three objects. For example: a box, a book and an ink bottle.

1. What can you tell about the box? About the book? About the ink bottle? Which is the heaviest? Which is the lightest? Which is the largest?
2. Look at three objects carefully, one after another.
3. Close your eyes and picture one after another.

Cover the objects.

4. Think the objects from right to left. From left to right.
5. Name the objects from right to left. From left to right.
6. Which is the third from the right? The second from the left?

When the position of every object in the group can easily be given from memory, place another object at the left or right. When a row of five is pictured and readily named in any order, begin with another group of five. Each day review the groups learned so as to keep them vividly in the mind.

Questions or directions similar to the following will test whether the groups are distinctly seen. Picture each group from the right, name objects in each from the right.

In the third group, what is the second object from the left.

What is the middle object in each group?

What is the largest object in each group?

When four or five groups can be distinctly imaged this exercise might give place to some other.

(c) Handwork:

1. Cut a slip of paper. Cut another a little longer. Another a little shorter. Measure. Practice.
2. Cut a square. Cut another a little larger. Another a little smaller. Measure. Practice.
3. Cut a slip of paper. Try to cut another equal in length. Look at them. Which is the longer? Place them together and see if they are equal. Practice cutting and comparing.

Give each pupil paper and an oblong rectangle.

4. Cut a rectangle as large as, or equal to, the rectangle I have given you. What are you to cut? Is the rectangle you cut as long as the rectangle I gave you? Is it as wide? Does the one you cut exactly cover the one I gave you? Are the two rectangles equal? Practice trying to cut a rectangle exactly the same size as, or equal to, the one I gave you. Use square, triangle, oblong, etc., in a similar way and then lead up to definite dimensions.

Give pupils a number of inch cubes.

1. Build a prism equal to this one. (Show prism only for an instant.)
2. Build a prism equal to this one.
3. Build a cube equal to this one.

Give other similar exercises from day to day.

(d) Ratios:

Show the pupils blocks three times as large as other blocks. Compare.

1. Draw a line. Separate it into three equal parts. Measure. Is one of the parts shorter than one of the others?
2. Draw lines of different lengths and practice trying to divide them into three equal parts.
3. Draw rectangles of different sizes and practice trying to separate them into three equal parts.
4. Show me where lines should be drawn to separate the blackboard into three equal parts. Move your hands over each of the three equal parts of the blackboard.

Select different solids.

5. Show me where each should be cut to separate it into three equal parts.
6. Find a solid that can be made into three parts, each as large as this solid.

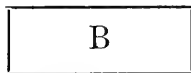
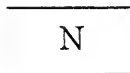
Give each pupil a piece of paper on which there is drawn a line equal to A.

A.

1. Draw a line equal to A.
2. Draw a line two times as long as A.
3. Draw a line three times as long as A.
4. Name the lines, A, B, C.
5. B is how many times as long as A?
6. C is how many times as long as A?
7. Show me $\frac{1}{2}$ of B. C is how many times as long as $\frac{1}{2}$ of B?
8. Show me $\frac{1}{2}$ of B. Draw a line three times as long as $\frac{1}{2}$ of B.
9. Draw a line equal to the sum of A and B. The sum of A and B equals what line?

This line of thought should be carried on by means of different presentations until the ratios are instantly recognized.

Give each pupil a square inch and an oblong 2 in. by 1 in. and another 3 in. by 1 in.



1. What is the length of the square rectangle? How long is the largest rectangle? What is the length of the other rectangle?
2. Show me the rectangle 2 in. by 1 in. The rectangle 3 in. by 1 in. Point to each rectangle and describe it.
Ex. This is a square rectangle one inch long.
3. Call the largest rectangle B, the smallest O, and the other N. Show me O. Show me B. Show me N.
4. N is as large as how many O's? What part of N equals O? N equals how many times O? O equals what part of N?
5. B is as large as how many O's? B equals how many times O? Show me $\frac{1}{2}$ of N. B is how many times as large as $\frac{1}{2}$ of N?
6. If we call O $\frac{1}{2}$, what is N? What is B?
7. Cut rectangles equal to O, N and B.
8. Place O and N together and make one rectangle of the two. How long is the rectangle you have made? How wide is it? It is as large as what rectangle? It equals what rectangle?

The teacher can accomplish much along this line by systematic questioning, with the objects before the child. Use different magnitudes and change their arrangements very often.

(c) Applications:

Relations of quart and pint:

Show pupils the pint and quart measures. Have them find by measuring the number of pints equal to a quart.

1. After measuring, tell all you can about the quart and pint.

This *free* work is far more valuable than that induced by questioning. Too much questioning interferes with the natural action of the mind in relating and unifying.

2. What is sold by the pint and by the quart?
3. A quart is how many times as large as a pint?
4. What part of a quart is as large, or as much as, a pint?

5. A quart is how much more than a pint?
6. A pint is how much less than a quart?
7. A quart and a pint equal how many pints?
8. Show me $1\frac{1}{2}$ quarts. What have you shown me?
9. $1\frac{1}{2}$ quarts equal how many pints?
10. If we call a pint 1, what should we call a quart? Why?
11. If we call a quart 2, what should we call the sum of a quart and a pint?
12. If a quart is 1, what is a pint?

Fill the quart and pint measures with water and let each pupil lift the two measures.

1. Which is the heavier, the quart of water or the pint?
2. The quart of water is how many times as much as the pint?
3. What part of the quart weighs as much as the pint?
4. The weight of a pint equals what part of the weight of a quart?
5. The weight of a quart equals the weight of how many pints?
6. A pint of water weighs a pound. How much does a quart of water weigh?
7. What part of a quart of water weighs a pound?
8. The sum of a quart and a pint of water weighs how many pounds?
9. Compare the weight of different solids with the weight of a pint of water.
10. If a pint of milk costs three cents, what should a quart cost?
11. In a quart there are how many pints? In three quarts there are how many 2-pints?
12. How much milk should be put into a quart measure to make it half full?

In the same manner deal with other measures.

(f) Simple problems based on ratios of quantities:

1. A boat sails 4 miles in $\frac{1}{2}$ hour; how far does it sail in 1 hour?
2. Mr. R. receives 6 cents for 2 pints of milk; how much ought he to receive for a quart?
3. If you take a quart of milk out of a gallon of milk, what part of a gallon remains?
4. 2 dimes equal how many nickels?
5. The candy that can be bought for a nickel equals what part of the candy that can be bought for 2 dimes?

Each teacher will need to determine for herself the amount to present to her class.

SECOND GRADE

READING—Second reader and supplementary reading.
SPELLING—From reader.

WRITING.
LANGUAGE.—Oral.
ARITHMETIC—Oral.

Textbook—Reader.

CORRELATION.—Continue the work of correlation as suggested in first year.

READING

Purpose.—(a) Same as in first grade. (b) Expression.

Teach the new words at the head of each lesson so that pupils will know them at sight, pronounce them correctly, and know what they mean. Be careful to secure correct pronunciation and distinct articulation. Note the following:—

1. To teach pupils to know words at sight, point rapidly from one word to another.
2. To teach the meaning of words, require pupils to give the words in sentences, after they have been fully explained, sentences to be both oral and written. To be sure that pupils get the thought, question them thoroughly on what they read.
3. To secure correct pronunciation, the teacher must be careful about his own pronunciation.
4. To secure good articulation, give frequent drills on elementary sounds and articulation exercises.

SUPPLEMENTARY READING

Pupils should be required to commit to memory short choice selections to be recited before the class. These selections may be taken from the reader or from anything not more difficult than the reader, and should be thoroughly understood before they are committed.

There is no place in the school course where supplementary reading can be made more profitable. It should generally be *sight reading* of interesting stories, very easy second grade or hard first grade work. Let one pupil read a portion and the others listen, and then have the story told by them. This insures attention and inspires pupils to read well.

Give additional attention to errors of pronunciation and to good expression. Aim at naturalness. Do not read very much for pupils to imitate. The skillful teacher succeeds in filling the pupils so full of the sentiment of the story that expression is spontaneous. Do not teach that the voice should fall at a period and be kept up at a comma; it is not true.

ELEMENTARY SOUNDS

Continue the study of elementary sounds as they occur in the reader, beginning now to make a study of vowels.

Teach the diacritical marks used with long and short vowel sounds. Drill until familiar with them. (Use Webster's International as a guide.)

SPELLING

Spell orally all the new words at the head of each reading lesson, giving daily reviews on hard words and a test each week on the work done.

Considerable time should be given also to written exercises in spelling.

The second and third years are the *spelling era*. Second and third reader pupils should spell rapidly and accurately every word in their finished work. This is accomplished by repetition.

Much time can be saved by classifying words having analogous peculiarities; e. g., words ending in *ight, ough, sion, tion, cion*, etc.

NOTE—"One trial only" is the key to good spelling.

WRITING

The pencil requires less care and skill to handle, therefore freedom will be encouraged by not using the pen in this grade. The pencil should be large, soft and long. If ruled paper is used, it should be ruled about $\frac{3}{4}$ inch wide. For children who are lacking in freedom and form, the blackboard must be used frequently.

Muscular movement may be taken up in this grade. The following method must be used for all beginners, regardless of grade:

First movement: Pencil on desk in groove, point to right. Assume correct position, hand open, palm down and about half inch from paper, arm resting on muscle of forearm. Now practice the push and pull exercise, arm moving in and out of the sleeve. Slowly at first and gradually increasing in rhythm until the entire class is moving in unison.

Second Movement: Same position except that the fingers are bent and in the same position as when holding the pencil. Now with the hand resting on the runners (third and fourth fingers) practice on push and pull, and direct oval.

Third Movement: Take pencil or pen, point up. See that the pencil is touching lightly on the paper, the hand resting on the runners, and the arm on the muscle. The arm must move in and out of the sleeve. Practice same drills as in second movement.

Fourth Movement: Pencil or pen point resting lightly on the paper in correct position. If pen is used, take ink. Now practice on the same simple drills. If a pupil uses finger movement, he should go back to the first three movements, for he is not ready for the fourth. Don't be in a hurry to take up this last movement. The first three must be practiced until they are made automatically.

The writing outline given in the Appendix may be followed quite closely, omitting the more difficult drills the first time over. Read instructions to first grade for counting for rhythm. Also read carefully "General Information" in Appendix. All writing in this grade should be under the direct supervision of the teacher.

LANGUAGE

(See Introduction and Appendix.)

Purpose.—Same as first grade.

Continue the work of the first grade. The nature study should include the observation and study of inanimate things. Collect and classify products of local industries, and use for subjects of conversations and oral compositions.

Practically no written language work should be required of pupils, but each week a certain amount of this work, as copying, dictation, etc., should be included in the spelling exercises. This work should develop the use of punctuation marks, quotation marks, capitals, abbreviations, dates, the possessive forms of nouns and pronouns.

The drill on irregular verbs should be carried on throughout the grades. Let rapidity, interest and brightness characterize the drill.

The vocabulary should be increased to include words of synonymous meaning and terms of opposite meaning. Have sentence drills in the use of both of these. These drills should lead pupils to discriminate in their choice of words.

Visualize many simple objects rapidly and describe, as *a pin, a pencil, a piece of chalk, a box*, etc. The value of the work in description consists in using words specially applicable to the object described. In the description of an apple, for instance, the words, *round, sphere, pulp, skin, core, juice* are brought out and definite concepts as to form and size developed. In the description of a pencil, the words, *slender, cylindrical, graphite*, become part of the child's vocabulary, and

new concepts and comparisons as to form, size and color are formed. In the description of a shoe, *sole, last, tongue, upper, lining*, are brought to the observation.

A poem should be taught line by line, thought by thought. Much time and attention should be given to the development of tones and the pitch of the voice, that the musical effect may be obtained. The expression should reveal the meaning and the spirit and the power of the poem.

Suggested Stories:

Fairy Tales, Hans Andersen.
 Fifty Famous Stories, James Baldwin.
 Boy Blue and His Friends, Blaisdell and Blaill.
 In the Days of Giants, Abbie F. Brown.
 How to Tell Stories to Children, Sarah Cone Bryant.
 Twilight Stories, Elizabeth Foulke.
 Just So Stories, Kipling.
 Fairy Stories, Andrew Lang.
 Children of the Arctic, Josephine Peary.
 American History Stories, Mara L. Pratt.
 In the Green Forest, Howard Pyle.

POEMS TO BE MEMORIZED

The Swing

Robert Louis Stevenson

How do you like to go up in a swing,
 Up in the air so blue?
 Oh, I do think it the pleasantest thing
 Ever a child can do!

Up in the air and over the wall,
 Till I can see so wide,
 Rivers and trees and cattle and all
 Over the countryside—

Till I look down on the garden green
 Down on the roof so brown—
 Up in the air I go flying again,
 Up in the air and down!

Stars and Daisies

Frank Dempster Sherman

At evening when I go to bed
 I see the stars shine overhead;
 They are the little daisies white,
 That dot the meadow of the Night.

And often while I'm dreaming so,
 Across the sky the Moon will go;
 She is a lady, sweet and fair,
 Who comes to gather daisies there.

For, when at morning I arise,
 There's not a star left in the skies;
 She's picked them all and dropped them down
 Into the meadows of the town.

The Wind

Robert Louis Stevenson

I saw you toss the kites on high
And blow the birds about the sky;
And all around I heard you pass,
Like ladies' skirts across the grass—
 O wind, a-blowing all day long,
 O wind, that sings so loud a song!

I saw the different things you did,
But always you yourself you hid.
I felt you push, I heard you call,
I could not see yourself at all—
 O wind, a-blowing all day long,
 O wind, that sings so loud a song!

O you that are so strong and cold,
O blower, are you young or old?
Are you a beast of field and tree,
Or just a stronger child than me?
 O wind, a-blowing all day long,
 O wind, that sings so loud a song!

Seven Times One

Jean Ingelow

There's no dew left on the daisies and clover,
There's no rain left in heaven;
I've said my "seven times" over and over—
Seven times one are seven.

I am old! so old I can write a letter;
My birthday lessons are done;
The lambs play always, they know no better;
They are only one times one.

O Moon! in the night I have seen you sailing,
And shining so round and low;
You were bright; ah, bright! but your light is failing;
You are nothing now but a bow.

You Moon; have you done something wrong in heaven,
That God has hidden your face?
I hope, if you have, you will soon be forgiven,
And shine again in your place.

O velvet Bee! you're a dusty fellow,
You've powdered your legs with gold!
O brave Marsh Marybuds, rich and yellow!
Give me your money to hold!

O Columbine! open your folded wrapper
Where two twin turtle-doves dwell!
O Cuckoo-pint! toll me the purple clapper,
That hangs in your clear, green bell.

And show me your nest with the young ones in it—
I will not steal them away,
I am old! you may trust me, Linnet, Linnet,—
I am seven times one to-day.

The Gladness of Nature

William Cullen Bryant

Is this a time to be cloudy and sad,
When our mother Nature laughs around;
When even the deep blue heavens look glad,
And gladness breathes from the blossoming ground?

There are notes of joy from the hang-bird and wren,
And the gossip of swallows through all the sky;
The ground-squirrel gaily chirps by his den,
And the wilding bee hums merrily by.

The clouds are at play in the azure space,
And their shadows at play on the bright green vale
And here they stretch to the frolic chase,
And here they roll on the easy gale.

There's a dance of leaves in that aspen bower,
There's a titter of winds in that beechen tree,
There's a smile on the fruit, and a smile on the flower,
And a laugh from the brook that runs to the sea.

And look at the broad-faced sun, how he smiles
On the dewy earth that smiles in his ray,
On the leaping waters and gay young isles;
Ay, look, and he'll smile thy gloom away.

The above may be supplemented by poems printed in previous editions of the Course of Study and by such poems as: The Wonderful World, William Brightly Rands; The Little Blue Pigeon, Eugene Field; November, Take Care, Alice Cary; First Snow-Fall, James Russell Lowell; Lady Moon, Lord Houghton; Lullaby, Sir Walter Scott; Young Night Thoughts, Robert L. Stevenson.

ARITHMETIC

(See Appendix)

Continuation and enlargement of work begun in first grade.

Keep adding to the visualizing, ratios and problems according to the advancement of the class.

Keep up a constant review, using the old facts in new relations.

Addition combinations:—

2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4
2	3	4	5	6	7	8	9	3	4	5	6	7	8	9	4	5	6
4	5	6	7	8	9	10	11	6	7	8	9	10	11	12	8	9	10
4	4	4	5	5	5	5	5	6	6	6	6	7	7	7	8	8	9
7	8	9	5	6	7	8	9	6	7	8	9	7	8	9	8	9	9
11	12	13	10	11	12	13	14	12	13	14	15	14	15	16	16	17	18

These combinations should be memorized and drilled upon until the child can give answers *instantly*.

THIRD GRADE

READING—Third reader and supplementary reading. LANGUAGE—Oral.

SPELLING—From reader and other class work. ARITHMETIC—Oral. Drill on combinations; addition, subtraction, tables.

WRITING. GEOGRAPHY—Oral.

Textbooks—Reader.

CORRELATION.—Same as second grade.

READING

Purpose.—(a) To gather thought. (b) Expression. (c) Word study.

The child's method of thought in third grade differs essentially from that of the first grade, and the teacher's plan of work should expand to fit his enlarged comprehension. In addition to sight-knowing of his own vocabulary, the child should now study many unfamiliar words and learn to comprehend the more complex forms of sentences, such as the inverted order, simple figures of speech, and esthetic conceptions. The child's success in comprehending these will, in large degree, determine the teacher's success in developing articulation, flexibility, and quality of voice—the requisites of good oral expression.

Require pupils to give substance of the lesson in their own language, always oral.

Give much drill on words difficult to articulate; such as ghosts, mists, rural, thistle, government, etc.

SUPPLEMENTARY READING

At the opening of the fall term, for supplementary reading have pupils read at sight some second reader with which they are not familiar.

At the beginning of the winter term reading should begin to have culture values more and more and the mere mechanics of reading should gradually disappear. There should be no such thing as "teaching reading" after the third grade. Besides the regular reader used draw upon the library books.

ELEMENTARY SOUNDS

Continue the work of previous grades. (Teach thoroughly all the diacritical marks as given in Webster's International.)

SPELLING

(See second grade)

At least half of the work should be written.

Spell all geographical names and names of persons that occur in the reader.

Spell words in classified groups as follows: parts of a house, kitchen utensils, garden vegetables, grains, animals, trees, etc. Also group words ending in *sion*, *tion*, *cion*; *us*, *ous*; *ur*, *ir*, *er*; *ance*, *ants*.

There should be some study of primitive and derivative words. Some of the most common prefixes and suffixes should be learned.

WRITING

The pen can be taken up to good advantage in this grade if the work in the preceding grades has been well done. Begin each lesson with a movement drill—the drill that logically leads up to the letter you have selected for practice. If you have fifteen minutes for writing, use five minutes for movement drill, five minutes for the letter, and five minutes for the word containing the letter. The outline given in the Appendix can be covered and reviewed during the year. Figures should have attention in this, and the following grades. Practice only one figure at a time, except on reviews, using the same movement as that used for the letter.

This is the grade to fix the position habit. Little will be done in the following grades by children who have a poor writing position. Read instructions for the first and second grades, also "General Information" in Appendix.

LANGUAGE

(See Appendix)

The work of this grade should be an expansion of the work of the preceding grades along similar lines.

Letter-writing should be taught throughout the grades.

Have pupils keep lists of new words, and use them in frequent drills.

In connection with the drill in verb-forms, have drills in the use of adjectives and adverbs, but these drills are to be on the *use*, rather than on the *names* of adjectives and adverbs.

Place on the board and use in sentences such words as:

calm	calmly
quick	quickly
fierce	fiercely
light	lightly
heavy	heavily

Give drills in all grades on the correct use of the personal pronouns until this use becomes mechanical and a fixed habit, as,

He is the man of whom I spoke.

It is I.

Was it she?

To whom did you tell it?

History should be drawn upon for language material. The history work should center about great characters. In the first four grades, stories of American history should be supplemented by the myths and legends of the Indians and the Norse legends. This furnishes many opportunities for story-telling and descriptions.

In this grade may be begun the narration of portions of books read, and short sketches of noted characters of whom the pupils have read or heard.

Suggested Stories:

Aesop's Fables,

Tales from the Far North, P. C. Asbjornsen.

Seven Little Sisters, Andrews.

Fifty Famous Stories, Baldwin.

Story of King Arthur, Brooks.

Squirrels and Other Fur Bearers, Burroughs.

Fairies and Folk of Ireland, Frost.

Knights of the Round Table, Frost.

Annals of Fairyland, J. M. Gibbons.

Heroes, Charles Kingsley.

Fairy Tales of the Brothers Grimm, Mrs. Lucas.

Little Lame Prince, Mulock.

A Dog of Flanders, Ouida.
 Bimbi Stories, Ouida.
 Book of Legends, Scudder.
 Bird's Christmas Carol, Wiggins.
 Our Little Indian Cousin, Wade.
 Our Little Cuban Cousin, Wade.

POEMS TO BE MEMORIZED

The Bluebird*Emily Huntington Miller*

I know the song that the bluebird is singing,
 Out in the apple-tree where he is swinging:
 Brave little fellow! the skies may be dreary:
 Nothin' cares he while his heart is so cheery.

Hark! how the music leaps out from his throat—
 Hark! was there ever so merry a note?
 Listen awhile, and you'll hear what he's saying,
 Up in the apple-tree, swinging and swaying.

"Dear little blossoms, down under the snow,
 You must be weary of winter, I know;
 Hark while I sing you a message of cheer—
 Summer is coming! and spring-time is here!

"Little white snowdrop! I pray you, arise;
 Bright yellow crocus! come, open your eyes;
 Sweet little violets, hid from the cold,
 Put on your mantles of purple and gold:
 Daffodils! daffodils! say, do you hear?—
 Summer is coming! and spring-time is here!"

The Brown Thrush*Lucy Larcom*

There's a merry brown thrush sitting up in a tree;

"He's singing to me! he's singing to me!"

And what does he say, little girl, little boy?

"Oh, the world's running over with joy!

Don't you hear? Don't you see?

Hush! look! In my tree

I'm as happy as happy can be!"

And the brown thrush keeps singing, "A nest do you see,

And five eggs hid by me in the juniper tree?

Don't meddle! don't touch! little girl, little boy,

Or the world will lose some of its joy!

Now I'm glad! now I'm free!

And I always shall be,

If you never bring sorrow to me."

So the merry brown thrush sings away in the tree,

To you and to me, to you and to me;

And he sings all the day, little girl, little boy,

"Oh, the world's running over with joy!

But long it won't be,

Don't you know? Don't you see?

Unless we're as good as can be."

The Barefoot Boy

John Greenleaf Whittier

Blessings on thee, little man,
Barefoot boy, with cheek of tan!
With thy turned-up pantaloons
And thy merry whistled tunes;
With thy red lip, redder still
Kissed by strawberries on the hill;
With the sunshine on thy face,
Through thy torn brim's jaunty grace:
From my heart I give thee joy,—
I was once a barefoot boy!
O for boyhood's painless play,
Sleep that wakes in laughing day,
Health that mocks the doctor's rules,
Knowledge never learned in schools,
Of the wild bee's morning chase,
Of the wild-flower's time and place,
Flight of fowl and habitude
Of the tenants of the wood;
How the tortoise bears his shell,
How the woodchuck digs his cell,
And the ground mole sinks his well;
How the robin feeds her young,
How the oriole's nest is hung;
Where the whitest lilies blow,
Where the freshest berries grow,
Where the ground-nut trails its vine,
Where the wood-grape's clusters shine;
For, eschewing books and tasks,
Nature answers all he asks;
Hand in hand with her he walks,
Face to face with her he talks,
Part and parcel of her joy,—
Blessings on the barefoot boy!

Child's Evening Prayer

Sabine Baring-Gould

Now the day is over,
Night is drawing nigh,
Shadows of the evening
Steal across the sky.

Now the darkness gathers,
Stars begin to peep,
Birds and beasts and flowers
Soon will be asleep.

Through the long night-watches
May Thine angels spread
Their white wings above me,
Watching round my bed.

When the morning wakens,
Then may I arise
Pure and fresh and sinless
In Thy holy eyes.

The Lost Doll

Charles Kingsley

I once had a sweet little doll, dears,
The prettiest doll in the world;
Her cheeks were so red and so white, dears,
And her hair was so charmingly curled.
But I lost my poor little doll, dears,
As I played on the heath one day;
And I cried for her more than a week, dears,
But I never could find where she lay.

I found my poor little doll, dears,
As I played on the heath one day;
Folks say she is terribly changed, dears,
For her paint is all washed away,
And her arms trodden off by the cows, dears,
And her hair not the least bit curled;
Yet for old sake's sake, she is still, dears,
The prettiest doll in the world.

The above may be supplemented by poems printed in previous editions of the Course of Study and by such poems as, *The Fountain*, James R. Lowell; *Don't Give Up*, Phoebe Cary; *In School Days*, John G. Whittier; *Village Blacksmith*, Henry W. Longfellow; *Afternoon in February*, Longfellow; *The Months*, Sara Coleridge; *Majorie's Almanac*, T. B. Aldrich.

ARITHMETIC

(See Appendix)

If the work of the previous grades has been rightly carried on, there will be a tendency to look at things, to handle them, to compare them, and to express freely what is discovered. Continued growth requires continued fostering of this disposition. The mind that is not exercised in observing and comparing loses power to picture conditions and to see things as they are. Growing power to judge involves continued sensing, imaging and expressing.

The work in elementary mathematics should put the learner in possession of the simple relations by means of which the relations beyond the range of preception may be indirectly established. The possession of simple relations does not grow out of the expression of relations, nor out of the observation of one or two things, but out of *many* experiences in which the relations are felt as stated in the first grade. By exercising ourselves upon things which lie within the range of sense, we obtain the relations of things which lie beyond. Economic work implies the *quickenning* of the faculties in all lines of effort. Train the senses to act quickly and correctly. Doing then follows naturally.

Drill work in visualizing should be a means of increasing mental power by training the eye to quickness and accuracy, and the mind to attend closely and image vividly. Too much stress cannot be laid upon accurate and rapid work in fundamental operations, accomplished only by drill in visualizing. Stress is placed upon fundamental combinations and processes. These must be thoroughly mastered, as they constitute the foundation upon which the entire superstructure of mathematics rests.

Continue and enlarge on all ratio work of second grade.

Ratios of time:

1. Draw lines representing 2 mo., 4 mo., 6 mo., 8 mo., 10 mo., 1 year.

- In the same manner treat the following:
- Ratios of time—using the clock and then drawing lines to represent 24 hr., $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{3}{4}$ of 24 hrs.
 - Ratios of length—using the yard and foot.
 - Ratios of weight—using the pound and $\frac{1}{2}$ lb., $\frac{1}{4}$ lb., $\frac{3}{4}$ lb.
 - Ratios of value—using moneys of different value.
 - Ratios of volume—pint, quart, gallon, peck, bushel.
 - Ratios of triangles and rectangles—draw large diagram on blackboard.

Ratios—imaging

6 12 18 24 30 36 42 48 54 60 66 72
 1 2 3 4 5 6 7 8 9 10 11 12
 6 is the ratio of 6 to 1; of 12 to 2; etc.

This should be carried on to 1-9 is the ratio of 9 to 81.

Simple, necessary relations are easily perceived and fixed by use. Good teaching induces through varied activities the clear, elementary ideas which make possible correct and rapid judgments in more complex work.

Review all combinations learned in second grade. In visualizing do not give the child more than he can assimilate. Constant drill is the only means of accomplishing the desired results.

The work of the third year includes the mastery of the process of addition and subtraction, using simple combinations but always working for accuracy and rapidity. The multiplication tables as far as 9×9 should be a part of each child's consciousness. First develop the tables by use of blocks, rectangles, etc. Then drill each day until they become thoroughly fixed in the child's mind. The ratio work given above, using objects, blocks, measures of length, volume, and value, will be the beginning of division and fractions. Visualizing and drill will make the pupil correct and rapid. At the end of the third year, children should be able to give rapidly answers to examples like the following:

Addition			Subtraction		
64	86	95	562	830	932
76	47	36	278	678	696
82	38	47			
55	12	65			

GEOGRAPHY

(See Appendix)

Fall

1. Introduction to the study of seasons; from the opening of school to about September 23, the autumnal equinox.
 - (1) Several lessons on the relation of changing seasons to the life of the pupils; their games as influenced by seasons; their food and clothing at different seasons.
 - (2) Effect of changing seasons upon the occupations of their parents; first bring out what the children already know; then stimulate them to look about them and discover what people are doing because winter is approaching.
 - (3) Effect of changing seasons upon animal life; first what the children already know, then observations to discover how various animals prepare for winter, such as thicker fur, storing up of food, building of houses, etc. Study the migration of birds; what birds stay all winter; what ones migrate; why do they migrate, etc.
 - (4) Effect of changing seasons upon vegetation; again bring out what the children already know, then set them to observing vegetation to find more about the effect of seasons upon vegetation; such as the trees that lose their leaves in winter, those that are evergreen, the first to turn red in autumn, etc. All of the observations suggested above to be carried throughout the year.
2. Observation of the sun's apparent path across the sky; time and direction of sunrise and sunset, length of day and night, noon angle of the sun above the southern horizon on the autumnal equinox. After these observations have been made call frequent attention as the weeks go by to where the sun is rising, setting and where it is at noon so as to bring out that the days are getting longer, the nights shorter and the sun's rays more slanting.

3. Observation of weather changes; the object is to discover how changing direction of the wind causes weather changes; what winds give us warm weather with clouds and rain; what winds give clear or clearing weather with low temperatures; what winds give the heaviest snow fall. Keep a weather chart.
4. Study of the maps of the schoolroom, school grounds, and school district. Be sure in the use of these maps that pupils do not use symbols on the maps until they know well the things for which the symbols stand. Drill on the telling of directions from the map, the use of scale, etc. When trips are taken to some valley or hill, delta, etc., be sure to take the map of the region along, making frequent stops for the pupils to point out where they are on the map.
5. Study of the land and water forms of the district; find and visit examples of valley, hill, slope, divide, plain, alluvial fan, delta, flood plain, creek, river, etc. Do not teach the definitions of these terms. Let the pupils make their own definitions if any are needed. All that is needed is that pupils shall know a delta when they see one or imagine one when they hear the name. There is no more need for their defining a river, alluvial fan, hill, etc., than there is for defining an automobile or a street car. If these land and water forms do not occur in the district they may be taught by means of pictures.
6. Study of the occupations of the school district:
 - (1) Agriculture—Why necessary, the gathering of crops, chief crops raised in the district, crops and soils, uses made of these crops by the farmer, what he does with his surplus after his own wants are supplied.
 - (2) Commerce—Where does the farmer go to find a market for his surplus products; why not sell them to his neighbors; show how commerce grows out of needs and wants of people which in turn arise out of differences of occupations; necessity for transportation, value of good roads, chief exports and imports of the district.
 - (3) Manufacturing—Why necessary, need of power, machinery, labor, raw material. Study the threshing machine or clover huller when it visits the district, and any other forms of manufacturing in the district.

WINTER

1. Observational work on changing seasons, watch their effect upon the occupation of people, animals, and vegetation continued. Try to bring out how the shorter days, longer nights and more slanting rays of the sun cause winter to be colder than autumn. Do not tell the children this but lead them to discover it. Call attention to the winter occupations of the farmer, especially the commercial side of his life, the hauling of wood, hay, etc., to town.
2. World relations or comparative home geography—There are many things that the children need to know for which the home region furnishes no good examples that can be studied by observation. These are to be brought out in the study of other regions by means of descriptions and pictures. The following and other regions are to be studied also to give meaning to the symbols on the globe when they are studied in the next grade. Read the Appendix carefully on this point. The following list of regions are only suggestive. Other regions may be added but the observational work for the term should not be neglected.
 - (1) Life in cold regions, Greenland and the Esquimaux.
 - (2) Life in mountains, Switzerland.
 - (3) Life in lowlands, Holland.
 - (4) Life in deserts, Sahara, Central Asia.
 - (5) Life in semi-arid regions, irrigation, etc., California and western United States.
 - (6) Life on great grass lands, Australia, Argentina.
 - (7) Life in tropical rain forests, Amazon valley.
 - (8) Life along sea coasts, Norway.
 - (9) Life in China or Japan.

- (10) Life of miners, coal in Pennsylvania, or iron in Michigan. Use pictures freely to illustrate these regions. Emphasize how differently people live in different regions because the environment is different. Do not use maps in this grade to show where these regions are. This work is in preparation for the use of the globe and map in the next grade. Say that these countries are in Europe or Asia on the other side of great bodies of water known as the Atlantic or Pacific oceans. Some of the above work may extend over into the spring term.

SPRING

1. Observational work upon season and weather continued—Summarize the result of the year's study of the sun's apparent paths across the sky, bringing out why summer is warmer than winter and why the seasons change.
2. Continue and extend the map of the local region putting in streams, hills, roads, buildings, etc.
3. Especial emphasis should be placed upon the work of running water at this time of the year; how it cuts gullies and valleys, carries heavy loads of mud and sand, forming deltas in mud puddles, alluvial fans at the base of steep slopes. Show the children that the surface of the land is not fixed and unchanging, but is slowly modified by various forces.
4. Make also a special study of the work of the farmer at this season. Study soils while the fields are being plowed in the spring, heavy soils, light soils, muck soils, the origin of soils by the weathering of rocks, the relation of the soils to the crops planted. Why crops must be fertilized, cultivated, etc.

FOURTH GRADE

READING—Third reader (different series from third grade) and supplementary reading.

SPELLING—From reader and other class work.

WRITING.

LANGUAGE—Oral.

ARITHMETIC—Oral. Complete combinations and tables; teach fundamental processes.

GEOGRAPHY—Textbook.

Textbooks—Reader and geography.

CORRELATION—In general, combine all the work of this grade.

READING

Purpose—The same as in third grade.

Continue third grade methods, giving special attention to exact meaning. Change words, punctuation and emphasis, then let pupils state the changes made in shade of thought.

Teach pupils how to use the dictionary, and as far as possible have each own a small copy. Assign a word each day for study with reference to pronunciation, spelling, derivation, and meaning. Weave this into the pupils vocabulary by having him use it in conversation, not only once, but several times. Review each Friday, testing the pupil's ability to use in conversation and writing, the words learned during the week. The avidity with which pupils do such work shows how much they appreciate their extended horizon.

Reading and language should be welded in this year. Do this by using the reading work as a basis for language.

SUPPLEMENTARY READING

This should include myths, American history stories, poems of nature, of patriotism and of moral sentiment. (See Library List.)

ELEMENTARY SOUNDS

Familiarize pupils with all the diacritical marks. Have daily marking of words until pupils are proficient.

SPELLING

Same as second and third grades. If the reader used is not fitted for spelling exercises, a speller may well be introduced in this grade.

WRITING

The simple movement drills given in the outline should be fairly well mastered in this grade. The capitals should be written with freedom and a fair degree of speed. Give the pupils special drills on writing their names, and difficult letters and joinings.

As the written work increases, so will bad habits if pencils are entirely used. Encourage the use of the pen for all written work, and in some cases insist on

its exclusive use. No progress will be made if the teacher accepts careless work. Follow methods for preceding grades. The writing in this grade should be smaller than that of the third grade, about standard size.

LANGUAGE

(See previous grades)

In this grade pupils may reasonably be expected to be able to relate an incident, tell a story, or describe an object interestingly and with a certain amount of discrimination in the selection of words.

The children should be taught to investigate the industrial world about them, in its resources, products, manufactures and commerce, and something of its machinery and how it is manipulated, and the various processes of manufacture. Their curiosity should be aroused in steam, electricity and inventions. These observations, intelligently directed, will yield an abundance of material for narrative and description.

Through the directed study of literature, pupils will acquire the power of visualizing places, people and conditions. In geography, imaginary journeys, visits to other lands and cities, river-trips and lake-trips, will further develop the powers of visualization. This work should lead to the acquisition of a rich vocabulary and a power of correct, fluent speech.

Never allow loosely constructed, carelessly arranged sentences. Watch the tendency to run words into one another, or to drop the final consonant.

Exercises like the following will lead to ability to discriminate in the choice of words. Put the word *walk* on the board and let the pupils make a list of words expressing similar movement, as *trot, pace, strut, jog, stride, stroll, canter*, etc. Make similar lists for, *talk, price, gloomy, weak*, etc.

Have poems written from memory and prose selections copied carefully.

Name the words that *best* describe sounds, odors, tastes, and the different sensations.

Through visualization and dictation exercises, teach the use of capitals and punctuation marks; apostrophe, quotation marks, margins and indentations.

A suggestive list of nature stories, myths, fairy tales, history and literature:

Ten Boys, Andrews.

Story of Roland, Baldwin.

True Story of George Washington, E. S. Brooks.

Revolutionary Stories, Ed. Century Co.

First Book of American History, E. E. Eggleston.

Boy life of Napoleon, Eugenie Fos.

Magna Charta Stories, Arthur Gilman.

King Arthur and His Court, Greene.

Story of the Thirteen Colonies, Guerber.

Wigwam Stories, M. C. Judd.

Jungle Book, Kipling.

Famous Legends, E. G. Krummelin.

Fairy Books, Arthur Lang.

First Book of Birds, Olive Thorne Miller.

Stories of the Bible, Margaret Sangster.

Children of the Cold, Schwatka.

Fanciful Tales, Stockton.

Boys of Other Countries. Bayard Taylor.

POEMS TO BE MEMORIZED

September

Helen Hunt Jackson

The goldenrod is yellow,
The corn is turning brown,
The trees in apple orchards
With fruit are bending down.

The gentian's bluest fringes
Are curling in the sun,
In dusty pods the milkweed
Its hidden silk has spun.

The sedges flaunt their harvest,
In every meadow nook,
And asters by the brookside
Make asters in the brook.

From dewy lanes at morning
The grapes' sweet odors rise,
At noon the roads all flutter
With yellow butterflies.

By all these lovely tokens,
September days are here,
With summer's best of weather,
And autumn's best of cheer.

A Child's Thought of God

Elizabeth Barrett Browning

They say that God lives very high!
But if you look above the pines
You cannot see our God. And why?

And if you dig down in the mines
You never see Him in the gold,
Though from Him all that's glory shines.

God is so good, He wears a fold
Of heaven and earth across His face—
Like secrets kept, for love, untold.

But still I feel that His embrace
Slides down by thrills, through all things made,
Through sight and sound of every place;

As if my tender mother laid
On my shut lids, her kisses' pressure,
Half waking me at night; and said,
"Who kissed you through the dark, dear guesser?"

The Children's Hour

Henry Wadsworth Longfellow

Between the dark and the daylight,
When the night is beginning to lower,
Comes a pause in the day's occupations
That is known as the Children's Hour.

I hear in the chamber above me
The patter of little feet,
The sound of a door that is opened,
And voices soft and sweet.

From my study I see in the lamplight,
Descending the broad hall stair,
Grave Alice and laughing Allegra,
And Edith with golden hair.

A whisper, and then a silence;
Yet I know by their merry eyes,
They are plotting and planning together
To take me by surprise.

A sudden rush from the stairway,
A sudden raid from the hall!
By three doors left unguarded
They enter my castle wall!

They climb up into my turret,
O'er the arms and back of my chair;
If I try to escape, they surround me;
They seem to be everywhere.

They almost devour me with kisses,
Their arms about me entwine,
Till I think of the Bishop of Bingen
In his Mouse-Tower on the Rhine.

Do you think, O blue-eyed banditti,
Because you have scaled the wall,
Such an old mustache as I am
Is not a match for you all?

I have you fast in my fortress,
And will not let you depart,
But put you down into the dungeon
In the round tower of my heart.

And there will I keep you forever,
Yes, forever and a day,
Till the walls shall crumble to ruin,
And molder in dust away.

Days of the Month

"Thirty days hath September,
April, June, and November;
All the rest have thirty-one
Save February, which alone
Has twenty-eight, but one day more
We add to it one year in four.

Sweet and Low

Alfred Tennyson

Sweet and low sweet and low,
 Wind of the western sea,
 Low, low, breathe and blow,
 Wind of the western sea!
 Over the rolling waters go;
 Come from the dying moon, and blow,
 Blow him again to me;
 While my little one, while my pretty one, sleeps.

Sleep and rest, sleep and rest;
 Father will come to thee soon.
 Rest, rest on mother's breast;
 Father will come to thee soon.
 Father will come to his babe in the nest;
 Silver sails all out of the west,
 Under the silver moon;
 Sleep, my little one, sleep my pretty one, sleep.

The above may be supplemented by poems printed in previous editions of the Course of Study and by such poems as *The Mountain and the Squirrel*, Ralph W. Emerson; *Paul Revere's Ride*, Children, Daybreak, *An April Day*, Henry W. Longfellow; *The Corn Song*, John G. Whittier; *The Old, Old Lady*, H. C. Bunner; *The Snow Song*, George Cooper; *The Wind in a Frolic*, William Howitt; *O Lady Moon*, Christina G. Rossetti; *March*, William Wordsworth.

ARITHMETIC

Note:—

Aim—Accuracy and rapidity.

Required work.

All multiplication tables as far as 12×12 .

Addition.

Subtraction.

Multiplication.

Division.

Methods for drill in abstract work.

The teacher should write problems on the board and the children give answers. The drill work should be rapid. The example should be erased immediately after it is written, before the answer is given. The teacher should write the figures large enough to be seen across the room.

All work in arithmetic depends upon the addition and subtraction combinations and the multiplication tables. Therefore, a portion of each recitation should be devoted to rapid drills in this.

Subtraction:

Drill on subtraction combinations. These combinations are the same as in addition, but the pupils should think the difference instead of the sum. When this year's work is completed the children should be able to subtract rapidly examples like the following:

4201	8320
—2679	—6873
<hr/>	<hr/>

Mental drills:

Visualize rapidly examples in multiplication, thus:

$$\begin{array}{r} 467 \\ 7 \\ \hline \end{array} \quad \begin{array}{r} 832 \\ 6 \\ \hline \end{array} \quad \begin{array}{r} 536 \\ 9 \\ \hline \end{array}$$

Visualize rapidly examples in division, thus:

$$\begin{array}{r} 6 \overline{)8735} \\ 5 \overline{)9324} \end{array}$$

Oral thought problems involving the above processes may now be given but should relate to existing conditions in industrial, commercial, governmental and social life.

GEOGRAPHY

(See Appendix for general directions)

1. In most schools a two book series of textbooks is used. The elementary or first book should be taken up. Partly as a review of the work of the third grade and also to cover topics that may have been omitted in the third grade, the chapters preceding world relations or world geography should be carefully studied. These chapters deal with the forms of land and water, soils, the work of running water, climate, weather, commerce, industries, etc.
2. Globe lessons—four to six weeks. When the study of the globe has been completed every pupil should be able to point out and name the various continents and oceans and some of the more important countries, seas, gulfs, rivers, etc.; tell directions on the globe; find latitude and longitude; use scale of the globe in finding distances; know the location of the zones and something of their climate. The portions of the text dealing with the earth as a globe should then be covered.
3. Transition from globe to map. Study of North America and the United States. Emphasize place geography. Cultivate the atlas or map habit. Use outline or base maps to fix in the pupil's mind the location of places. Bring out the relation of life to environment; what the people do and why, how they live and why. Supplement the text by out-of-door observations, stories, pictures, supplementary readers.

FIFTH GRADE

READING—Fourth reader.

LANGUAGE—Oral.

SPELLING—Textbook.

ARITHMETIC—First book.

PENMANSHIP.

GEOGRAPHY—Textbook.

Textbooks—In branches as above.

CORRELATION—In the primary work correlation begins by uniting the work of reading, first with language, then with numbers, etc., until in the fourth grade the whole work becomes a unit. In this grade and succeeding ones care should be taken that in each subject taught, the threads reaching to other subjects be woven together so that the pupil's knowledge shall be like a cable with no strands swinging loosely about, but with each one helping to give strength and symmetry to all.

In physiology fifth and sixth grades should do the same work, reciting but twice each week if school is large, alternating with grammar and geography. Special attention should be given to hygiene, ventilation and narcotics.

READING

Purpose—(a) To perfect oral expression. (b) To gain knowledge and to cultivate a taste for good literature.

Up to this time the main object has been to teach to read, but the work of the fifth grade should be more comprehensive and assume more of a literary character. Study carefully all the selections in the reader, noting important historical and rhetorical allusions.

SUPPLEMENTARY READING

The work suggested in the fourth grade should be continued, adding biography of great Americans.

Noted authors may be studied in a limited way; when, where and how they lived. If possible, some of their important works should be discussed.

A fourth reader of an unfamiliar series may be profitably used for sight reading.

NOTE.—Pupils should be encouraged to make free use of the dictionary. For convenience have a dictionary shelf from which the book is seldom taken, but to which the pupils may go without special permission.

SPELLING

If not already introduced, a speller should now be used. No one method can be said to be the only one, but from this point the teaching of spelling involves more than the mere conning of letters. It is of little value that pupils spell words which they cannot use. Hence, *use* of words in sentences should form one of the important parts of the work. Their meaning, derivation and growth should also receive attention. It is not to be understood from this that every new word should

be thus studied, but enough such work should be done to give pupils a taste for it.

Another and very important result from such study as secures accurate spelling is the resulting mental discipline. Accuracy signifies power of concentration,—the power that distinguishes the scholar.

Method:

Most of the spelling should be written. Oral spelling may be used about twice a week for review and drills in pronunciation and articulation. In such work insist that every word be correctly pronounced and clearly enunciated. Indeed, make this a feature of all oral spelling. If this is difficult, pupils should for a time be required to pronounce each syllable. The teacher should be sure of her own pronunciation. She should never distort a word to assist in its spelling. Words should be pronounced but once and but one trial be allowed. *Make this rule invariable.*

When possible, either give the word in a sentence or have pupils do so.

Give special drill upon hard words and the pronunciation of those ordinarily mispronounced.

The real secret of teaching spelling is to have no misspelled words. Never be impatient with the poor speller, but encourage by showing him how to study spelling.

WRITING

Correct habits of position should be fixed by the time the pupil reaches this grade so that the teacher and pupil may be able to give their entire attention to movement, form and speed.

At the beginning of the year, take up the exercises as outlined, and follow them quite closely. While repetition is important, do not allow random, slipshod practice. Speed tests may be given occasionally. Read carefully the instructions for the preceding grades, and "General Information" given in Appendix.

LANGUAGE

This outline includes work for the sixth grade.

In these grades the pupils should be required to understand and use intelligently the words common to the literature of the grades. They should have developed some power of discrimination and niceness of choice in the use of words and in their literary taste.

The work will consist largely of description, stories, poems, narratives, imaginary journeys, original stories, biographies, book reviews and oral compositions on familiar subjects as well as subjects of which they have read and heard.

The descriptions will differ from those of preceding grades in being more definite, concise, technical and complete, and will show a better development of the imagination.

Continue the descriptions of various sensations.

The drills on verb-forms and correct use of words in sentences of the every day vernacular should be constant.

Imaginary journeys may be made most interesting and instructive if the pupils are encouraged to collect railroad guides and geographical information as well as general knowledge of the places visited, and the country passed through. Surface, soil, products, character of the people, climate and conditions,—social, industrial and economic—are to be included.

The original story may be developed in various ways. In the impersonation of objects, characters, and even elements, as the wind, the water, the sea, the river, etc., a beginning is made.

Tell an interesting story to the climax,—be sure to select such stories as reach an interesting climax,—and let the pupils finish the story with an ending of their own invention.

Book reviews should consist of extracts from books read or description of characters.

A full narration of a book read is seldom desirable.

Oral compositions on familiar subjects should be short and complete. Descriptions of places visited, scenes witnessed, sports,—as a ski tournament, a basketball game, a race, a foot-ball game,—anything which has interested the child, will be found good material.

In both fifth and sixth grades, American history stories should be made the basis for oral work. Biographical stories of men who have been most closely connected with the development of the nation should be given.

Develop business forms, business letters and letters of invitation and acceptance or regret.

Suggested Stories:

Stories Mother Nature Told, Andrews.
 Century Book of American Colonies, E. S. Brooks.
 Century Book of American People, E. S. Brooks.
 Story of the Golden Age, Baldwin.
 Indian Stories, T. S. Drake.
 Story of the English, Guerber.
 Story of Greece, Guerber.
 Story of the Romans, Guerber.
 Little Journeys to Other Lands, Marian George.
 Uncle Remus, J. C. Harris.
 Little Mr. Thimblefinger, J. C. Harris.
 Story of Aaron, J. C. Harris.
 Aaron in the Wildwood, J. C. Harris.
 Story of the Rhinegold, A. A. Chapin.
 Fairy Books, Andrew Lang.
 Animal Story Book, Andrew Lang.
 Adventures of Ulysses, Lamb.
 Heroes Every Child Should Know, H. W. Mabie.
 Little Folks in Feathers and Furs, Olive Thorne Miller.
 Historical Tales, Charles Morris.
 King Arthur, Charles Morris.
 Familiar Animals, Montieith.
 Heart of Oak, C. E. Norton.
 King of the Golden River, Ruskin.
 Old Indian Legends, Zitkala Sa.
 Wild Animals I Have Known, E. Thompson Seton.
 Lives of the Hunted, E. Thompson Seton.
 True Story of Abraham Lincoln, E. S. Brooks.

POEMS TO BE MEMORIZED

Abou Ben Adhem

Leigh Hunt

Abou Ben Adhem (may his tribe increase!)
 Awoke one night from a deep dream of peace,
 And saw, within the moonlight in his room,
 Making it rich, and like a lily in bloom,
 An angel writing in a book of gold:
 Exceeding peace had made Ben Adhem bold,
 And to the presence in the room he said,
 "What writest thou?"—The vision raised its head,
 And with a look made of all sweet accord,
 Answered, "The names of those who love the Lord."
 "And is mine one?" said Abou. "Nay, not so,"
 Replied the angel. Abou spoke more low,
 But cheerily still; and said, "I pray thee then,
 Write me as one that loves his fellow-men."
 The angel wrote and vanished. The next night
 It came again, with a great wakening light,
 And showed the names whom love of God had blessed,
 And lo! Ben Adhem's name led all the rest.

Today*Thomas Carlyle*

So here hath been dawning
 Another blue day:
 Think, wilt thou let it
 Slip useless away.

Out of Eternity
 This new day was born;
 Into Eternity,
 At night, will return.

Behold it aforetime
 No eye ever did;
 So soon it forever
 From all eyes is hid.

Here hath been dawning
 Another blue day:
 Think, wilt thou let it
 Slip useless away.

The Arrow and the Song*Henry W. Longfellow*

I shot an arrow into the air,
 It fell to earth, I knew not where;
 For, so swiftly it flew, the sight
 Could not follow it in its flight.

I breathed a song into the air,
 It fell to earth, I knew not where;
 For who has sight so keen and strong
 That it can follow the flight of song?

Long, long afterward, in an oak
 I found the arrow, still unbroke;
 And the song, from beginning to end,
 I found again in the heart of a friend.

Good Morning*Robert Browning*

The year's at the Spring,
 And day's at the morn;
 Morning's at seven;
 The hillside's dew-pearled;
 The lark's on the wing;
 The snail's on the thorn;
 God's in his heaven—
 All's right with the world.

Sky-Born Music*Ralph Waldo Emerson*

Let me go where'er I will,
 I hear a sky-born music still.
 It is not only in the rose,
 It is not only in a bird,
 Not only where the rainbow glows,
 Nor in the song of woman heard;
 But in the darkest, meanest things,—
 There always, always, something sings.

A Song in the Night*George Macdonald*

A brown bird sang on a blossoming tree,
 Sang in the moonshine, merrily,
 Three little songs, one, two, and three,
 A song for his wife, for himself, and me.

He sang for his wife, sang low, sang high,
 Filling the moonlight that filled the sky;
 "Thee, thee, I love thee, heart alive.
 Thee, thee, and thy round eggs five."

He sang to himself, "What shall I do
 With this life that thrills me through and through?
 Glad is so glad that it turns to ache.
 Out with it, song, or my heart will break."

He sang to me, "Man, do not fear,
 Though the moon goes down and the dark is near;
 Listen to my song and rest thine eyes;
 Let the moon go down that the sun may rise."

The above may be supplemented by such poems as, *The Singer*, John Greenleaf Whittier; *Landing of the Pilgrims*, Mrs. Hemans; *I Remember, I Remember*, Thomas Hood; *Concord Hymn*, R. W. Emerson.

ARITHMETIC

This Course of Study contemplates two books on this subject. The first is now put into the hands of the pupils. If the work of previous grades as outlined has been thoroughly mastered, in this grade pupils will complete the book in one year.

In this grade begins the work in arithmetic proper. Heretofore the effort has been to acquaint the pupil with quantities and their relations, mathematical phraseology, mathematical facts, such as the combination of digits by the four fundamental processes, addition, subtraction, multiplication and division. Now the pupil is to swing from the sense work with small concrete numbers to abstract work with larger numbers, from the specific to the general. Before he proceeds he must know with certainty the following:

First. All the combinations of any two digits.

Second. The product of any two numbers up to 15×15 .

Third. How to add columns of figures with absolute certainty.

Indicate examples in division by the various methods of indicating division, as

$\frac{24}{6}$ or 24:6, using no one of these to the exclusion of the others. This will prepare the pupils to understand the meaning of fractions and ratio long before they reach those subjects in their work.

NOTATION AND NUMERATION

The study of these should aim at rapidity, so that pupils write or read without hesitation numbers of four periods, knowing the names of these periods and the orders in the periods. Give frequent practice in reading and writing numbers.

ADDITION AND SUBTRACTION

This will consume but little time for pupils should have had much drill in previous grades. Allow no counting on fingers or by marks. Aim at speed and accuracy.

MULTIPLICATION AND DIVISION

This work should complete all the drill that should ever be necessary for pupils. Give enough examples to secure accuracy and rapidity. Remember to test *thoroughly* the pupils' knowledge of multiplication tables. If they show any forgetfulness of these tables, review them daily in connection with the other work.

LONG DIVISION

This demands patient and persistent drill. Too often pupils make slow progress because they obtain the successive quotient figures from the answers of the book. Here, as elsewhere, give examples outside the book. Teach pupils to notice and compare each partial product with the partial dividend from which it is to be subtracted. After the subtraction is made, let the remainder in like manner be compared with the divisor.

FACTORING

Make the distinction between prime and composite absolutely clear. Resolve numbers into composite, then prime factors. Have pupils name and write the prime factors of numbers to 100, and drill until no mistakes are made in recognizing them instantly. A simple and easy plan is to separate a given number into two large factors, readily perceived, and treat these similarly. Thus: $72 = 9 \times 8$; $9 = 3 \times 3$, and $8 = 2 \times 2 \times 2$. Then $72 = 3 \times 3 \times 2 \times 2 \times 2$. Review thoroughly aliquot parts of 100.

This will be of great service to pupils in many parts of their subsequent work.

FRACTIONS

Addition, subtraction, multiplication and division. This work cannot be done too thoroughly. Give much drill on reduction of mixed numbers to improper fractions and the reverse.

Continue teaching relations of quantity and number; e. g.,

- (What is the relation of 4 to 12? Ans., $\frac{1}{3}$ (read $\frac{1}{3}$ of 4) or $\frac{1}{3}$.
What is the relation of 6 apples to 18 apples? 12 oranges to 6 oranges? 8 books to 2 books? 5 books to 8 books? 9 to 12? 7 to 12?
- Introduce cancellation; e. g., If 8 books cost 16c, what will 5 books cost?

$$\text{Stated: } \frac{5 \cdot \cancel{16}}{\cancel{8}} = 10.$$

- (a) If $\frac{3}{4}$ of a ton of hay cost \$12, what will $\frac{1}{4}$ of a ton cost? (b) 1 ton? (c) $2\frac{1}{2}$ tons?

$$\frac{1}{4} \text{ ton cost } \frac{1}{3} \text{ of } \$12 \text{—Stated: (a) } \frac{\$12}{3} \text{ (read } \frac{1}{3} \text{ of } \$12).$$

$$1 \text{ ton cost } 4 \times \frac{\$12}{3} \quad \text{Stated: (b) } \frac{\$12 \times 4}{3}.$$

$$2\frac{1}{2} \text{ tons cost } \frac{5}{2} \times \text{etc.} \text{—Stated and solved: (c) } \frac{\cancel{\$12}^1 \cdot \cancel{4}^2 5}{\cancel{3} \cdot \cancel{2}} = \$40.$$

4. $\frac{2}{3}$ of a gallon of oil costs 10c. What will $5\frac{2}{3}$ gallons cost?
5. 4 acres of land cost \$220. What is the cost of 5 acres? 6 acres? 8 acres?
(Note the relation of 4 to 5, 4 to 6, 4 to 8.)
6. What is the relation of $\frac{1}{3}$ to $\frac{1}{4}$? Of $\frac{2}{3}$ to $\frac{2}{5}$?
7. If $\frac{2}{5}$ of a pound of tea cost 20c, what will $\frac{5}{8}$ of a pound cost?

Do not give a *few* of these problems, but many, until certain that pupils understand the principles so well that they will not be forgotten. Repetition is the teacher's branding iron.

Review principles of division and apply to operations on fractions. Completion and review of common and decimal fractions.

In decimals there is nothing new to learn except placing the decimal point. Give this special attention.

Suggestions:—Send class to the board and dictate examples in multiplication: as “Multiply 12.568 by 26.769. How many places to point off in the product?” Do not wait for pupils to perform the operation, but simply to discover the number of places to point off.

In division teach to *place the point when the proper quotient is found.*

DEVICE

Teach the principle that division of numbers with like denominators gives a *whole number* for quotient.

Hook together the right hand figure of the divisor and the corresponding figure of the dividend, placing decimal point in the quotient when *that* dividend figure is brought down and divided; e. g.,

- (a) Divide 25.6845 by .33.

$$\begin{array}{r} \text{Operation:—} \quad .33 \overline{) 25.6845} \quad \underline{77.} + \\ \quad \quad \quad 231 \\ \quad \quad \quad \underline{258} \\ \quad \quad \quad \quad 231 \\ \quad \quad \quad \quad \underline{25} \end{array}$$

- (b) Divide 35 by .003.

$$\begin{array}{r} \text{Operation:—} \quad .003 \overline{) 35.000} \\ \quad \quad \quad \underline{11666.} + \end{array}$$

- (c) Reduce $\frac{1}{6}$ to a decimal.

$$\text{Operation:—} \quad \underline{16.} \overline{) 1.000} \quad \underline{0.0625}$$

Explanation:

16 is contained in 1, no times. Place point; in 10, no times; in 100, 6 times, and 4 remainder; in 40, 2 times, and 8 remainder; in 80, 5 times.

When pupils are working decimals they should place a decimal point after *every whole number* that they write.

By these simple devices pupils will, in two or three days, learn to point off accurately.

This method of pointing off in division of decimals is used by business men, and should receive attention from teachers.

In all work insist upon correct form.

GEOGRAPHY

1. Elementary or first book completed.
2. Regions to be studied.
 - South America.
 - Australia.
 - Africa.
 - Asia.
 - Europe.
3. Emphasize place geography; use base maps for review exercises to fix the location of places. Give the most time and attention to Europe.

SIXTH GRADE

READING—Fourth reader (different series from fifth grade.) ARITHMETIC—Second book from beginning through decimals and denominate numbers.
SPELLING—Speller.
PENMANSHIP.
LANGUAGE—Language book. GEOGRAPHY—Second book.

Textbooks—In branches as above.

ALTERNATION

In schools having but one teacher the number of recitations may be lessened by combining certain classes. It is not necessary to make two classes in the second book in geography. In case there are both six and seventh grades, let the sixth grade do seventh grade work, completing latter part of geography in sixth year. Then the following year have this grade (now the seventh) do sixth grade work, completing first half of book with the new sixth grade.

READING

In the sixth, seventh and eighth grades the attention should be divided between punctuation, figures of prosody and literary contents with special reference to the ingenuity of those devices of style that are used to produce a strong impression on the reader. As literary study is the highest phase of reading work, its prominence should increase with each succeeding grade.

SUPPLEMENTARY READING

A great deal of supplementary reading should be given. The selections should be easy, never more difficult than the grade reader.

History stories. Biographical. The ordinary elementary history is suitable for this work.

Systematic study of classics may now be commenced. The following course is suggested for the sixth, seventh and eighth grades:

Sixth grade.—Legend of Sleepy Hollow; The Huskers; Grandfather's Chair; We are Seven; Hiawatha; Rip VanWinkle; Pied Piper of Hamelin.

Seventh and eighth grades.—Tanglewood Tales; Dicken's Christmas Carol; Snow-Bound; Among the Hills; Evangeline; The Chambered Nautilus; Launching of the Ship; Courtship of Miles Standish; The Great Stone Face; To a Water-fowl; Lady of the Lake; The Vision of Sir Launfal.

SPELLING

(a) Continue the same plan of work as in fifth grade. This is the grade in which to make good spellers.

(b) Introduce some elements of orthography.

1. Teach vocals, subvocals, aspirates.
2. Classify letters representing the above sounds.
3. Teach syllabication, and names of words according to syllables.
4. Complete the study of all ordinary abbreviations.

WRITING

The methods and practice for this, and the following grades are practically the same as for the fifth, except that the writing ought to be of a better quality. If time is lacking for the regular drills, spelling, arithmetic and other written lessons provide excellent material for practice. A standard of proficiency should be determined by the teacher, and when a pupil reaches this he may be excused from the regular class drills.

LANGUAGE

(See fifth grade outline.)

WRITTEN WORK

Reproduce in writing, memorized literary gems.
Drill upon the marks of punctuation.

Books and stories for use in the sixth grade may be suggested by the following list:

Story of Roland, Baldwin.
 Historic Boys, Brooks.
 Historic Girls, Brooks.
 Boys of '76, Coffin.
 Building of the Nation, Coffin.
 Freedom Triumphant, Coffin.
 World's Greatest Short Stories, Cody.
 American Writers, Cody.
 American Poets, Cody.
 Story of the Rhinegold, A. A. Chapin.
 Wonder Stories from Wagner, A. A. Chapin.
 Lost in the Jungle, Du Chaillu.
 Stories of the Chosen People, Guerber.
 Boy's Heroes, E. E. Hale.
 King Arthur and His Knights, Ed. Harpers.
 Strange Stories of Colonial Days, Ed. Harpers.
 Wonder Book, Hawthorne.
 Boy Travellers, Knox.
 Second Jungle Book, Kipling.
 Water Babies, Kingsley.
 Heroes, Kingsley.
 Tales from Shakespeare, Lamb.
 Adventures of Ulysses, Lamb.
 Dogs and Their Doings, Morris.
 Dog of Flanders, Ouida.
 Siegfried and Beowulf, Zenaide Ragazin.
 Tales out of School, Stockton.
 Lives of the Hunted, E. T. Seton.
 Gulliver's Travels, Swift.
 Story of Columbus, E. E. Seelye.
 Boys of Other Countries, Taylor.
 Rose and the Ring, Thackeray.
 Pot of Gold, Wilkins.
 Child Life in Prose, Whittier.
 Joan of Arc.
 Paul Jones.
 Abraham Lincoln.
 Century Book of Famous Americans.

POEMS TO BE MEMORIZED

A Day in June

(From The Vision of Sir Launfal)

James Russell Lowell

What is so rare as a day in June?
 Then, if ever, come perfect days;
 Then Heaven tries the earth if it be in tune,
 And over it softly her warm ear lays;
 Whether we look, or whether we listen,
 We hear life murmur, or see it glisten;
 Every clod feels a stir of might,
 An instinct within it that reaches and lowers,
 And groping blindly above it for light,
 Climbs to a soul in grass and flowers;
 The flush of life may well be seen
 Thrilling back over hills and valleys;
 The cowslip startles in meadows green,
 The buttercup catches the sun in its chalice,
 And there's never a leaf nor a blade too mean
 To be some happy creature's palace;
 The little bird sits at his door in the sun,
 Atilt like a blossom among the leaves,
 And lets his illumined being o'errun
 With the deluge of summer it receives;
 His mate feels the eggs beneath her wings,
 And the heart in her dumb breast flutters and sings;
 He sings to the wide world, and she to her nest,—
 In the nice ear of Nature which song is the best?

The Sandpiper*Celia Thaxter*

Across the lonely beach we flit,
 One little sandpiper and I;
 And fast I gather, bit by bit,
 The scattered driftwood bleached and dry.
 The wild waves reach their hands for it,
 The wild wind raves, the tide runs high,
 As up and down the beach we flit,—
 One little sandpiper and I.

Above our heads the sullen clouds
 Scud black and swift across the sky;
 Like silent ghosts in misty shrouds
 Stand out the white lighthouses high.
 Almost as far as eye can reach
 I see the close-reefed vessels fly,
 As fast we flit along the beach,—
 One little sandpiper and I.

I watch him as he skims along
 Uttering his sweet and mournful cry;
 He starts not at my fitful song,
 Nor flash of fluttering drapery.
 He has no thought of any wrong;
 He scans me with a fearless eye;
 Stanch friends are we, well tried and strong,
 The little sandpiper and I.

Comrade, where wilt thou be to-night
 When the loosed storm breaks furiously?
 My driftwood fire will burn so bright!
 To what warm shelter canst thou fly?
 I do not fear for thee, though wroth
 The tempest rushes through the sky;
 For are we not God's children both,
 Thou, little sandpiper, and I?

The Thristle

Alfred Tennyson

"Summer is coming, summer is coming,
 I know it, I know it, I know it.
 Light again, leaf again, life again, love again!"
 Yes, my wild little Poet.

Sing the new year in under the blue.
 Last year you sang it as gladly.
 "New, new, new, new!" Is it then so new
 That you should carol so madly?

"Love again, song again, nest again, young again."
 Never a prophet so crazy!
 And hardly a daisy as yet, little friend,
 See, there is hardly a daisy.

"Here again, here, here, here, happy year!"
 O warble, unchidden, unbidden!
 Summer is coming, is coming, my dear,
 And all the winters are hidden.

The Cloud

Percy Bysshe Shelley

I bring fresh showers for the thirsting flowers
 From the seas and the streams;
 I bear light shade for the leaves when laid
 In their noonday dreams.

From my wings are shaken the dews that waken
 The sweet buds, every one,
 When rocked to rest on their mother's breast,
 As she dances about the sun.

I wield the flail of the lashing gale,
 And whiten the green plains under;
 And then again I dissolve it in rain,
 And laugh as I pass in thunder.

I am the daughter of Earth and Winter,
 And the nursling of the Sky;
 I pass through the pores of the ocean and shores;
 I change, but I cannot die.

Down to Sleep

H. H. Jackson

November woods are bare and still;
November days are clear and bright;
Each noon burns up the morning's chill;
The morning's snow is gone by night;
Each day my steps grow slow, grow light,
As through the woods I reverent creep,
Watching all things lie "down to sleep."

I never knew before what beds,
Fragrant to smell, and soft to touch,
The forest sifts and shapes and spreads;
I never knew before how much
Of human sound there is in such
Low tones as through the forest sweep
When all wild things lie "down to sleep."

Each day I find new coverlids
Tucked in, and more sweet eyes shut tight;
Sometimes the viewless mother bids
Her ferns kneel down, full in my sight;
I hear their chorus of "good-night;"
And half I smile, and half I weep,
Listening while they lie "down to sleep."

November woods are bare and still;
November days are bright and good;
Life's noon burns up life's morning chill;
Life's night rests feet which long have stood;
Some warm, soft bed, in field or wood,
The mother will not fail to keep,
Where we can lay us "down to sleep."

The above may be supplemented by poems printed in previous editions of the Course of Study and by such poems as, *The Day is Done*, Henry W. Longfellow; *Ring Out, Wild Bells*, Alfred Tennyson; *The House by the Side of the Road*, Sam W. Foss.

ARITHMETIC

Drill in the fundamentals in each grade. A great deal of work in mental arithmetic should be given.

Complete common fractions and decimals. Make clear and fasten in pupil's minds the laws that fix the decimal point. (See fifth grade suggestions.) In pointing off in multiplication and division, *never* allow a pupil to guess at his work. Constantly ask, "Why do you place the point there?"

In writing decimals let the *names* of the first *six* decimal places be thoroughly mastered and allow no "cutting and trying." Pupils should be able to give instantly the number of places to point off for tenths, hundredths, thousandths, etc.

Teach thoroughly how to reduce common fractions to decimals and the reverse.

Give many problems in U. S. money.

Learn and apply the tables of measures of extension, capacity, weight, time, etc.

Give exercises in reduction, addition, subtraction, multiplication and division of compound numbers. Have pupils explain problems daily.

Give many exercises for mental drill. Let the unit of comparison be the square foot. *Say nothing of square inches.*

GEOGRAPHY

(See Appendix)

1. The advanced or second book taken up.
2. A study of the features and forces of man's physical environment as outlined in the text but supplemented by observation and field trips. Secure daily weather map from the nearest weather bureau station, Grand Rapids or Detroit.
3. Intensive study of South America.
 - (1) The continent as a whole as per outline for continental study in Appendix,—special emphasis upon climate and climatic control of occupation.
 - (2) The study of individual countries.
 - (3) Topics for intensive study.
 - a. Tropical rainy forests, their characteristics and relation to man.
 - b. The pampas and llanos and the grazing industry of the country.
 - c. The nitrate industry of the Alacama desert.
 - d. The rubber industry of the Amazon valley.
 - e. The coffee industry of Brazil.
 - f. The cacao industry.
 - (4) Commerce. Chief exports and imports growing out of occupations.
4. Africa.
 - (1) The continent as a whole as per outline.
 - (2) Egypt—The Nile valley life and occupations of people, methods of irrigation, products, etc.
 - (3) The Sahara—life, habits, and characteristics of animals and plants as conditioned by aridity of desert and water of oases.
 - (4) Life in tropical rainy forests as compared with those of South America.
 - (5) South Africa—grazing industry, ostrich farming, diamond mines, etc.
5. Australia.
 - (1) The continent as a whole.
 - (2) Peculiarities of animals and plants.
 - (3) Sheep raising industry.
 - (4) Gold mining.
6. Asia.
 - (1) The continent as a whole.
 - (2) Intensive study of—
 - a. China.
 - b. Japan.
 - c. India.

SEVENTH GRADE

READING—Fifth reader.

SPELLING—Speller.

PENMANSHIP.

GRAMMAR—Textbook.

ARITHMETIC—Second book.

GEOGRAPHY—Second book completed.

PHYSIOLOGY AND HYGIENE—Textbook
Six months.

HISTORY—Elementary textbook. Three
months work on the Colonial
Period.

Textbooks—In all branches as above.

Both geography and physiology are to be completed in this grade. Seventh grade pupils may write on these two subjects of the eighth grade examination

READING

The work for this year should be largely a study of literature and authors. Select from the reader the best literary productions of several authors and study those of each writer in groups, noting similarities and differences. Critical study of words, derivation, use, pronunciation.

SUPPLEMENTARY READING

(See sixth grade)

WRITING

(See sixth grade)

POEMS TO BE MEMORIZED

Four Things

Henry vanDyke

Four things a man must learn to do
If he would make his record true:
To think without confusion clearly;
To love his fellow-men sincerely;
To act from honest motives purely;
To trust in God and Heaven securely.

To a Waterfowl

William Cullen Bryant

Whither, midst falling dew,
While glow the heavens with the last steps of day,
Far, through their rosy depths, dost thou pursue
Thy solitary way?

Vainly the fowler's eye
Might mark thy distant flight to do thee wrong,
As, darkly painted on the crimson sky,
Thy figure floats along.

Seek'st thou the plashy brink
Of weedy lake, or marge of river wide,
Or where the rocking billows rise and sink
On the chafed ocean side?

There is a Power whose care
Teaches thy way along that pathless coast—
The desert and illimitable air—
Lone wandering, but not lost.

All day thy wings have fanned,
At that far height, the cold, thin atmosphere,
Yet stoop not, weary, to the welcome land,
Though the dark night is near.

And soon that toil shall end;
Soon shalt thou find a summer home, and rest,
And scream among thy fellows; reeds shall bend,
Soon, o'er thy sheltered nest.

Thou'rt gone, the abyss of heaven
Hath swallowed up thy form; yet, on my heart
Deeply has sunk the lesson thou hast given,
And shall not soon depart.

He who, from zone to zone,
Guides through the boundless sky thy certain flight,
In the long way that I must tread alone,
Will lead my steps aright.

The Flag Goes By

Henry Holcomb Bennett

Hats off!

Along the street there comes
A blare of bugles, a ruffle of drums,
A flash of color beneath the sky:

Hats off!

The flag is passing by!

Blue and crimson and white it shines
Over the steel-tipped, ordered lines.

Hats off!

The colors before us fly;
But more than the flag is passing by.

Sea-fights and land-fights, grim and great,
Fought to make and to save the State;
Weary marches and sinking ships;
Cheers of victory on dying lips;

Days of plenty and years of peace;
March of a strong land's swift increase;
Equal justice, right, and law,
Stately honor and reverend awe;

Sign of a nation, great and strong
Toward her people from foreign wrong;
Pride and glory and honor,—all
Live in the colors to stand or fall.

Hats off!

Along the street there comes
A blare of bugles, a ruffle of drums;
And loyal hearts are beating high:

Hats off!

The flag is passing by!

The Ship of State

Henry Wadsworth Longfellow

Thou, too, sail on, O Ship of State!
Sail on, O Union, strong and great!
Humanity with all its fears,
With all the hopes of future years,
Is hanging breathless on thy fate!
We know what Master laid thy keel,
What Workmen wrought thy ribs of steel,
Who made each mast, and sail, and rope,
What anvils rang, what hammers beat,
In what a forge and what a heat
Were shaped the anchors by thy hope!
Fear not each sudden sound and shock,
'Tis of the wave and not the rock;
'Tis but the flapping of the sail,
And not a rent made by the gale!
In spite of rock and tempest's roar,
In spite of false lights on the shore,
Sail on, nor fear to breast the sea!
Our hearts, our hopes, are all with thee,
Our hearts, our hopes, our prayers, our tears,
Our faith triumphant o'er our fears,
Are all with thee,—are all with thee!

Additional poems suggested:

Gray's *Elegy in a Country Churchyard*.
Battle Hymn of the Republic, Julia Ward Howe.
The Blue and the Gray, Francis Miles Finch.
Sheridan's Ride, Thomas B. Reed.
The American Flag, Joseph R. Drake.
To a Skylark, William Wordsworth.

SPELLING

- (a) Continue the plan laid out in the fifth grade.
- (b) Give special attention to synonyms, homonyms, antonyms.
- (c) Study words from dictionary (two or three each day) with reference to roots, prefixes and suffixes. Classify all such words according to Latin, Greek, French or Anglo-Saxon derivation and preserve such classification for reference and study.

GRAMMAR

During the first year of technical grammar, avoid tangling, perplexing and obscure points. Definitions should be accurately learned and continually applied by pupils. The definition is the bed rock of etymology.

ALTERNATION

The remarks on geography made in the sixth grade apply with equal force to seventh and eighth grade grammar work, it being immaterial whether syntax or etymology is taught in seventh grade. In case there are both seventh and eighth grade grammar pupils, let seventh grade do eighth grade work, completing the latter part of grammar in seventh grade. Then the following year have this grade (now the eighth) do seventh grade work, completing first half of book together with the new seventh grade. In studying etymology do enough parsing to enable the pupils to see at a glance the entire etymological description of a word and especially its construction, or use in the sentence.

ARITHMETIC

Drill in the fundamentals in each grade. A great deal of work in mental arithmetic should be given.

Prepare pupils for quick and accurate work in each application of percentage by doing the corresponding work from some textbook in mental arithmetic; also, by first reviewing decimals. Have exercises similar to the following:

- (a) .05 of 400 means $5 = \frac{1}{100}$ of 400.

*Solution:

$\frac{1}{100}$ of 400 is 4.

$\frac{5}{100}$ of 400 is 5×4 , or 20.

.01 of 500 means?

.02 of 2140 means?

.05 of 25 means?

} Solve as above.

- (b) $1\frac{1}{2}\%$ means .01.

25% of 600 means $25 \times \frac{1}{100}$ of 600.

Solution:

1% of 600 = 6.

25% of 600 = $25 \times 6 = 150$.

20% of 40 means?

16% of 50 means?

Give many examples until the pupil habitually thinks " 1% is what?"

- (c) 1. What is 1% , if 2% of a number is 40?

Solution:

1% is $\frac{1}{2}$ of 40 or 20.

If 5% is 60? 30? 12?

If 20% is 600? 120? 80? 20?

2. What is 1% , if 60 is 18% ? 2% ? 10% ? 50% ? 100% ?

- (d) 1. What is 100% , if 24 is 8% ? 12% ?

2. 12 is 20% of what?

3. 18 acres is 6% of what?

- (e) 1. 1 is what per cent of 100?

Solution:

1 is $\frac{1}{100}$ of 100, or 1% .

2. 3 is what per cent of 100?

Solution:

1 is 1% of 100.

3 is as many times 1% as 3 is times 1, or 3 times 1% or 3% .

3. 8 is what per cent of 400?

Solution:

1 is 1% of 400.

8 is as many times 1% as 8 is times 1, or 2 times 1% , or 2% .

4. 60 is what per cent of 1200?

Solution:

12 is 1% of 1200.

60 is as many times 1% as 60 is times 12, or 5 times 1% , or 5% .

*Solution must be used only once for explanation, then the pupil should see the result immediately.

If this analysis seems difficult at this stage, use ratios; e. g.,
8 is what per cent of 400?

Solution:

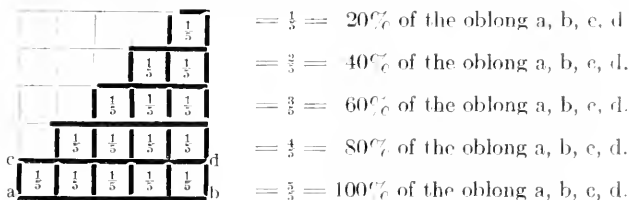
$$\begin{aligned} 8 \text{ is } \frac{8}{400} &= \frac{2}{100} \text{ of } 400. \\ \frac{1}{100} &= 1\%. \\ \frac{2}{100} &= 2 \times 1\% = 2\%. \end{aligned}$$

Have pupils express the list given below in four or more forms as follows:

$$12\frac{1}{2}\% = .12\frac{1}{2} = \frac{12\frac{1}{2}}{100} = \frac{25}{200} = \frac{1}{8}$$

$$33\frac{1}{3}\%, 25\%, 16\frac{2}{3}\%, 14\frac{2}{3}\%, 11\frac{1}{3}\%, 8\frac{1}{3}\%, 2\frac{1}{2}\%, 1\frac{2}{3}\%, 1\frac{1}{3}\%, 1\frac{1}{4}\%.$$

Use graphic illustrations something as follows:



Lead the pupil to see that $\frac{1}{5}$ the oblong a, b, c, d is the same no matter where it is taken. Proceed from this to the general concept of $\frac{1}{5}$ of a thing being 20% of it, and the same with reference to thirds, fourths, eighths, etc.

TABLE OF EQUIVALENTS

(To be memorized.)

$$\begin{aligned} 10\% &= \frac{1}{10} \\ 20\% &= \frac{1}{5} \\ 25\% &= \frac{1}{4} \\ 30\% &= \frac{3}{10} \\ 40\% &= \frac{2}{5} \\ 50\% &= \frac{1}{2} \\ 60\% &= \frac{3}{5} \\ 70\% &= \frac{7}{10} \\ 75\% &= \frac{3}{4} \\ 80\% &= \frac{4}{5} \end{aligned}$$

$$\begin{aligned} 61\% &= \frac{61}{100} \\ 12\frac{1}{2}\% &= \frac{1}{8} \\ 37\frac{1}{2}\% &= \frac{3}{8} \\ 62\frac{1}{2}\% &= \frac{5}{8} \\ 87\frac{1}{2}\% &= \frac{7}{8} \\ 16\frac{2}{3}\% &= \frac{1}{6} \\ 33\frac{1}{3}\% &= \frac{1}{3} \\ 66\frac{2}{3}\% &= \frac{2}{3} \\ \frac{1}{2}\% &= \frac{1}{200} \\ \frac{1}{4}\% &= \frac{1}{400} \\ \frac{3}{4}\% &= \frac{3}{400} \end{aligned}$$

All solutions of problems should be based upon analyses already made familiar to pupils by operations in common and decimal fractions; thorough explanations should be exacted. The ordinary formulas should not be used until each principle has been made familiar by analysis. The formulas should *never precede* analysis.

Commission, insurance, taxes, interest, bank discount, trade discount, mortgages. Omit true discount, stocks, bonds and annual interest.

In computing interest teach thoroughly one method and *insist* upon *accuracy*.

During this term teach pupils to make out notes and bills of various kinds, such as bills of articles commonly purchased, bills for work done, etc. Place forms on the blackboard, giving special attention to capitalization and punctuation. Have these copied until pupils are familiar with them; then give examples requiring these forms and have pupils arrange them in neat, accurate shape, carrying them out in detail and receipting.

In bank discount the teacher should find out from a bank how the transaction is carried on.

Mortgages. What are they? What is the difference between a real estate mortgage and a chattel mortgage? Are all mortgages accompanied by notes? Where are mortgages recorded? Why are mortgages taxed? What is the tax on mortgages in Michigan? What is a first mortgage? A second mortgage?

Familiarize pupils with drafts, certificates of deposit, certified checks. Explain the difference between a check and a certified check.

Write negotiable notes, receipts and blank checks. (See Appendix for these forms.)

LEGAL BREVITIES

A note dated on Sunday is void. A note obtained by fraud or from one intoxicated is void. If a note be lost or stolen, it does not release the maker; he must pay it. A note by a minor is void. Notes bear interest only when so stated, but all notes bear interest after maturity. Principals are responsible for their agents. Each individual in partnership is responsible for the whole amount of the debts of the firm. Ignorance of the law excuses no one. It is a fraud to conceal a fraud. It is illegal to compound a felony. The law compels no one to do impossibilities. An agreement without consideration is void. Signatures in lead pencil are good in law. A receipt for money is not legally conclusive. The acts of one partner bind all the others. Contracts made on Sunday cannot be enforced. A contract with a minor is void. A contract made with a lunatic is void. Written contracts concerning land must be under seal.

Exchange. Omit foreign exchange. Occupations and a review of previous work.

GEOGRAPHY

(See Appendix)

1. Observational study throughout the year of weather changes and the work of running water in modifying the land surface.
2. North America as a whole, following outline for continental study as far as vegetation, after which it is better to study the separate countries.
3. Intensive study of the United States and its outlying territory or possessions.
 - (1) Make a special study of the location, boundaries and characteristics of the various physiographic regions or provinces of the United States and their influence upon the lives of the people residing therein.
 - (2) Study also the various industrial regions and divisions.
 - (3) In connection with the Great Lake region make a detailed study of Michigan.
4. Europe as a whole through vegetation in outline for continental study.
5. Mapping of Europe upon meridian-parallel nets.
6. Intensive study of leading European countries, Great Britain, Germany, France, etc.

A rapid review of the various continents to bring out how position, form, size, surface and winds combine to determine climate; how climate and soil combine to determine vegetation; how man responds to his environment in various ways with the result that he engages in various occupations; how out of these various occupations commerce arises. Put especial emphasis upon the world's commerce as related to the United States.

UNITED STATES HISTORY

Emphasis should be placed on history stories during the sixth and seventh grades.

Many teachers fail to appreciate the value of stories in the education of the child. By this means his interest may be aroused, his mental faculties stimulated and developed, his language improved and a taste for good reading cultivated. At least twice a week, oftener if possible, there should be a period for telling stories. A part of this time should be given to telling historical stories, especially stories of historical heroes, to the children of the fourth, fifth, sixth and seventh grades, although, of course, the children of the whole school will listen to them. Children are naturally hero worshippers and heroic deeds especially appeal to them.

The pupils should not be allowed to remain entirely receptive in this work. It is not merely for their entertainment. To secure the best results, the stories should be told by the teacher and reproduced by the pupils either orally or in

writing. Nothing better can be found for language work. Younger pupils should repeat them orally. The older pupils may give them in written form, although oral reproduction is valuable for them also. Not too much should be told at one time and the language used should be simple and clear. Only a few proper names should be used and the story should be made as interesting and dramatic as possible.

The teacher should not be satisfied with bringing out alone the deeds of the heroes studied. Their romantic and exciting deeds will easily serve as a means of getting the children interested; but the pupils should be led incidentally to learn of the customs, manner of living, food, dress, utensils, implements, weapons, houses, industries, education and training, games, etc., of the heroes and the people whom they represent and the events with which they were connected.

The following will furnish good stories for this work: Columbus, Ponce de Leon, Cortez, De Soto, Captain John Smith, Miles Standish, Champlain, LaSalle, Marquette, Penn, Washington, Franklin, Lincoln, Jackson, Lewis and Clark, Jefferson, Hamilton, Webster, Clay, Calhoun, Fremont, Paul Jones, Perry, Grant, Dewey, Daniel Boone, George Rogers Clark and many others.

The children of the sixth and seventh grades should be encouraged and expected to do much reading for themselves if suitable historical and biographical books are accessible. Every school ought to have such books as the children will like to read. If a suitable library is not at hand, the teacher can easily get a traveling library by writing to the State Librarian, Lansing.

The Colonial Period should be studied by the seventh grade.

SUGGESTIONS

1. Give attention to only a few of the most important discoveries and explorations.
2. Study in detail only three or four of the leading colonies, such as Virginia, Massachusetts, New York and Pennsylvania. Study the life of the people in colonial times especially.
3. Bring out the importance of the struggle between the French and English in North America.
4. Be sure to study Michigan history. Show how Michigan was explored by the French and that Detroit and a few other places were settled by them. Its transfer to the English after the French and Indian War. Pontiac's Conspiracy. Michigan in the War of 1812. Lewis Cass and his work for the territory. Settlement by Americans. Trouble over the southern boundary line. Admission as a state, etc. The study of Michigan history is more important to the children of the state than that of almost any of the original Thirteen Colonies.

EIGHTH GRADE

READING—Fifth reader or good literature. HISTORY—Textbook.

SPELLING—Orthography.

CIVIL GOVERNMENT—One-half year. Use
textbook in Michigan gov-
ernment.

GRAMMAR—Book completed

ARITHMETIC—Second book completed, mental work continued. ELEMENTARY AGRICULTURE—Intensive work, one-half year.

Textbooks—In all branches.

Give civil government three times per week and agriculture two times per week throughout the year.

READING

(See seventh grade)

ORTHOGRAPHY

If a textbook is used in this subject, do not overlook spelling. Give constant drill in all difficult words found in literature, history and civil government, or review preceding year's spelling with the seventh grade.

WRITING

(See sixth grade)

POEMS TO BE MEMORIZED

Lead, Kindly Light

John Henry Newman

Lead, kindly light, amid th' encircling gloom,
Lead Thou me on;
The night is dark, and I am far from home,
Lead Thou me on.
Keep Thou my feet; I do not ask to see
The distant scene; one step enough for me.

I was not ever thus, nor prayed that Thou
Shouldst lead me on;
I loved to choose and see my path; but now
Lead Thou me on.
I loved the garish day; and, spite of fears,
Pride ruled my will: remember not past years.

So long Thy power hath blest me, sure it still
 Will lead me on
 O'er moor and fen, o'er crag and torrent, till
 The night is gone,
 And with the morn those angel faces smile,
 Which I have loved long since, and lost a while.

Address at Gettysburg

(Dedication of National Cemetery, Nov. 19, 1863.)

Abraham Lincoln

Fourscore and seven years ago our fathers brought forth upon this continent a new nation, conceived in liberty and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation or any nation so conceived and so dedicated can long endure. We are met on a great battlefield of that war. We have come to dedicate a portion of that field as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this; but in a larger sense we cannot dedicate, we cannot consecrate, we cannot hallow this ground. The brave men, living and dead, who struggled here, have consecrated it far above our power to add or detract. The world will little note, nor long remember, what we say here; but it can never forget what they did here. It is for us, the living, rather to be dedicated to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be dedicated here to the great task remaining before us; that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom; and that government of the people, by the people, and for the people, shall not perish from the earth.

Crossing the Bar

Alfred Tennyson

Sunset and evening star,
 And one clear call for me!
 And may there be no moaning of the bar,
 When I put out to sea.

But such a tide as moving seems asleep,
 Too full for sound and foam,
 When that which drew from out the boundless deep
 Turns again home.

Twilight and evening bell,
 And after that the dark!
 And may there be no sadness of farewell,
 When I embark!

For tho' from out our bourne of Time and Place
 The flood may bear me far,
 I hope to see my Pilot face to face
 When I have crossed the bar.

The Chambered Nautilus

Oliver Wendell Holmes

This is the ship of pearl, which, poets feign,
Sails the unshadowed main,—
The venturous bark that flings
On the sweet summer wind its purpled wings
In gulfs enchanted, where the siren sings,
And coral reefs lie bare,
Where the cold sea-maids rise to sun their streaming
hair.

Its webs of living gauze no more unfurl;
Wrecked is the ship of pearl!
And every chambered cell
Where its dim dreaming life was wont to dwell,
As the frail tenant shaped his growing shell,
Before thee lies revealed,—
Its irised ceiling rent, its sunless crypt unsealed!

Year after year beheld the silent toil
That spread his lustrous coil;
Still, as the spiral grew,
He left the past year's dwelling for the new,
Stole with soft step its shining archway through,
Built up its idle door,
Stretched in his last-found home, and knew the old
no more

Thanks for the heavenly message brought by thee,
Child of the wandering sea,
Cast from her lap, forlorn!
From thy dead lips a clearer note is born
Than ever Triton blew from wreathed horn!
While on mine ear it rings,
Through the deep caves of thought I hear a voice that
sings.

Build thee more stately mansions, O my soul,
As the swift seasons roll!
Leave thy low-vaulted past!
Let each new temple, nobler than the last,
Shut thee from heaven with a dome more vast,
Till thou at length art free,
Leaving thine outgrown shell by life's unresting sea!

L'Envoi

Rudyard Kipling

When Earth's last picture is painted, and the tubes are twisted and dried,
When the oldest colours have faded, and the youngest critic has died,
We shall rest, and, faith, we shall need it—lie down for an aeon or two,
Till the Master of All Good Workmen shall set us to work anew!

And those who were good shall be happy; they shall sit in a golden chair;
They shall splash at a ten-league canvas with brushes of comet's hair;
They shall find real saints to draw from—Magdalene, Peter, and Paul;
They shall work for an age at a sitting and never be tired at all!

And only the Master shall praise us, and only the Master shall blame;
And no one shall work for money, and no one shall work for fame;
But each for the joy of the working, and each, in his separate star,
Shall draw the Thing as he sees It for the God of Things as They Are!

Work

Henry van Dyke

Let me but do my work from day to day,
 In field or forest, at the desk or loom,
 In roaring market-place or tranquil room;
 Let me but find it in my heart to say,
 When vagrant wishes beckon me astray,
 "This is my work; my blessing not my doom;
 "Of all who live, I am the one by whom
 "This work can best be done in the right way."

Then shall I see it not too great, nor small,
 To suit my spirit and to prove my powers;
 Then shall I cheerful greet the labouring hours,
 And cheerful turn, when the long shadows fall
 At eventide, to play and love and rest,
 Because I know for me my work is best.

GRAMMAR

(See seventh grade)

Emphasize the composition work and teach common figures of rhetoric.

ARITHMETIC

Review percentage, including interest, profit and loss, discount.

Teach ratio and proportion.

Mental arithmetic work should be kept parallel with the written work in these subjects. Analysis cannot be too critical in this year's work. There is no better place to teach accurate use of language.

In teaching the right angled triangle have pupils take a string 12 inches or 12 feet long, and tie knots dividing it into parts having ratio of 3, 4, 5, i. e., 3, 4, 5 inches or feet, in length; using the ends and knots for angles, form a triangle and it will be a right angled triangle.

In teaching the circle and sphere, wind the area of a 4-inch circle and a 4-inch sphere with a string to show that it takes four times as much string to cover the sphere, illustrating that the area is four times as great.

Pupils memorize the following:

If the radius of a circle = 1 in., 1 ft. or 1 yd., the area of the circle = 3.1416 sq. in., 3.1416 sq. ft., 3.1416 sq. yd., etc.

When $r. = 2$, area of circle = 2^2 or 4×3.1416 , and area of sphere 4 times as much.

When $r. = 3$, area of circle = 3^2 or 9×3.1416 , and area of sphere 4 times as much.

When $r. = 4$, area of circle = 4^2 or 16×3.1416 , and area of sphere 4 times as much.

When $r. = \frac{1}{2}$, area of circle = $\frac{1}{4}$ or $\frac{1}{4} \times 3.1416$, and area of sphere 4 times as much.

When $r. = \frac{3}{4}$, area of circle = $\frac{9}{16}$ or $\frac{9}{16} \times 3.1416$, and area of sphere 4 times as much.

When $r. = \frac{5}{8}$, area of circle = $\frac{25}{64}$ or $\frac{25}{64} \times 3.1416$, and area of sphere 4 times as much.

etc.

Mensuration, measurements of plane surfaces,—squares, triangles, rectangles, etc. Practical problems to apply them. Square root and its application. Also study thoroughly the application as used by mechanics.

The subject of mensuration may be very much simplified. Too often the rules are given without illustration, pupils attempting to remember each independently and seeing no connection between the various figures. As most of the pupils will never study geometry, the teacher should endeavor to so illustrate the matter that they may have as little as possible to remember arbitrarily. Beginning with the

rectangle, pupils will see that its area is equal to the product of its length and breadth. Then show them that an oblique-angled parallelogram with an equal base and altitude is its equivalent, hence its measure is the same. They will readily see that the measure of the triangle is one-half that of the parallelogram, and that the trapezoid may be divided into two triangles whose bases are the parallel sides of the trapezoid and whose common altitude is that of the trapezoid. Next deduce the rule for measurement of the circle by considering it as composed of an infinite number of triangles.

In like manner we may pass from the rectangular prism to the triangular, and from that to the general one. Then show that the triangular prism may be divided into three equivalent pyramids, and from this triangular pyramid we may pass to the general one and to the cone. This sphere is seen to be composed of an infinite number of pyramids whose altitude is the radius of the sphere and the sum of whose bases makes up its surface, etc.

Construct solids of cardboard.

Complete and review both mental and written arithmetic.

Teach the simple equation and its transformations as used in arithmetic.

HISTORY

In the eighth grade a good textbook should be used, but the work should not be confined entirely to it. The pupils should be encouraged and required to gather information from other books when they are available.

As has been well said, "History lessons must involve not merely reading the text, however intelligently, but the introduction of other related texts, the study of geographical conditions, free discussion carried on as far as possible by the pupils, explanation by the teacher, outside reference work,—provided the pupils are mature enough,—a liberal use of photographs and other pictures, and of related literature."

One of the greatest defects in history teaching in our schools is the emphasis put upon facts alone and the failure to teach the meaning of the facts. Much time and hard work are spent in learning names, dates, statistics, and detailed facts which have no meaning and no interest for the children. The work in history should not consist in merely memorizing facts but should help to develop the imagination and the thinking powers of the child. The teacher should not be satisfied with having the pupils say over certain facts, but should endeavor to make them see the meaning and relation of those facts,—should help them to live over in imagination the past.

Points to be Emphasized

It is well for the teacher to keep constantly in mind certain points to be brought out in teaching a history lesson. These are:

1. The historical characters, the persons or people who took part in the event or movement that is being studied. Every historical event has its human element. The leading actors should not be merely names to the pupils, they should be taught so that they stand out as living and distinct personalities. A comparison of men should often be made. This study of historical characters may be so carried on as to become a great moral stimulus to the children.

2. The thing that took place or was accomplished. The teacher should not be satisfied until the children have clear, accurate, connected ideas of the event or movement under consideration. Then they should be required to give a clear, accurate and connected account of the thing that is being studied. Of course, they should not be held to give a mass of unimportant details. One of the chief defects in teaching history in our schools is the slovenly, slipshod, fragmentary manner in which pupils are too commonly allowed to recite in the history class. The history recitation can be made and ought to be made not only a valuable exercise in language but likewise an excellent discipline in thinking correctly. The aim should be exact knowledge and correct statement.

3. The geographical relations. The soil, climate and topography of a country have a profound effect upon its history. Almost every historical event and movement is directly or indirectly caused or influenced by the geographical conditions under which it took place. These should be carefully brought out by the

teacher. This will help to make history study interesting and give it meaning.

The teacher should make use of maps constantly in the history work. He should have the pupils study and discuss the physical features of the region where the events under consideration take place and locate all important historic points on the map. The pupils should be taught how to use a map in this connection. They ought also to draw historical maps.

4. The time. Events in history have a time relation as well as a place relation. The learning of dates may easily be abused. It may be made a dry and profitless task. In this matter, as in many others, extremes are to be avoided. By no means all the dates that appear in the textbook should be learned by the pupil. On the other hand, the most important dates should be thoroughly mastered, the pupil being drilled on them until he knows them. The exact date of some events should be learned, but for most historical events it is sufficient to locate them in time relative to some other more important event. For example, the date when Washington became president, 1789, should be learned; but it is sufficient to know that Hamilton's financial measures, the Genet episode, invention of the cotton gin, the whisky insurrection, and Jay's treaty came in Washington's administration, during the eight years following 1789.

5. Cause and effects. History should not be taught as a series of disconnected, isolated events. Too frequently it is so taught. Historical events have not only a time relationship and a place relationship, they have also a cause and effect relationship. Events and movements do not simply happen. If the work in history in the eighth grade and high school is to reach its highest educational value, causes and results must be carefully traced out. For example, for the pupil to learn to say that the cotton gin was invented by Eli Whitney in 1794 amounts to nothing unless he is made to see the tremendous results of the invention. To teach a child to recite glibly a few facts about the Missouri Compromise is not educating him much unless the causes leading to it and the results growing out of it are comprehended by him, unless it is seen in its relations, unless, in short, the real meaning is got out of it.

Current Events

1. Each week devote one period to events that are attracting attention in Congress and in the State Legislature.
2. Have some good clean newspaper on current events in the schoolroom for pupils. Discuss those topics that will have a future historical significance.
3. Local matters of county and township. Political, financial (taxation), social.
4. Biographical sketches of local and State people of prominence.
5. Educational topics.

Civil Government

The organization and government of the school; rights and duties of members of the school; the school board, names of members, when and how chosen, duties and powers; taxation for school purposes. The township: size; history; officers, election, powers and duties. The county: size; history; county seat; officers, election, powers and duties. The state: history; the legislature, two houses, number of members, election, passing of laws; executive department, principal officers, election, powers and duties; judicial department, courts and judges, civil and criminal cases. The United States: the adoption of the Constitution; Congress, number of members, election of members, powers, etc.; the President, his election, qualifications, powers and duties; the executive departments and cabinet; judicial department, courts and judges and their functions. The rights and duties of citizenship. Self-government. Representative government. Law and liberty. Justice. The suffrage and manner of voting. Political parties and party machinery. Revenue and taxation.

Much of the subject of civics should be taught in connection with the history; such as the government of the Colonies, the township system of New England and the county system of the South, the weakness of the Articles of Confederation, the adoption of the Constitution, the election of president in connection with the elections of 1800 and 1824, impeachment in connection with Johnson, etc. Much may also be done along this line by the teaching of current political events. Many teachers of civics use what may be called the laboratory method with good results. Elections are carried on by the pupils; various blanks are ob-

tained from the proper officers and examined and filled out by the pupils; visits are made to the court house, and to other places where the processes of government are being conducted. If advantage is taken of the opportunities within easy reach, the work will be given life and will have much greater educational value.

The subject of civics is poorly taught so often because teachers know so little about it. Not more methods are needed so much as a fuller knowledge of the subject matter.

When it is considered that a large percentage of children leave school at the close of the eighth grade and when the importance of this subject to citizens and future voters is weighed the duty of giving careful attention to this study is evident. Four objects should be kept constantly in view by the teacher; to imbue the children with the spirit of our institutions; to give them a good knowledge of the structure and workings of our several governments; to make them intelligent in regard to some of our most important political questions; and most important of all, to instill into them a sound political morality.

The emphasis should be placed on local government and what the local, state and national government are actually doing for the people. Many things with which the ordinary person has little to do, like the national judiciary, should receive little attention. Many portions of the national and state constitution should be entirely omitted. Make the work practical. Give the pupils what they will need as citizens.

APPENDIX

AGRICULTURE

NATURE STUDY

GRADES II AND III

1. Nature observations. To develop the perceptive and apperceptive qualities of mind.
2. Nature stories.
3. Nature poems.
4. Names and general descriptions of occupations.
5. Names of common flowers, birds, trees and shrubs.
6. Collection of curios, or the preparation of a child's museum.

NOTE.—Nature study is not a study, but a spirit. It is the spirit of the teacher as related to nature development—the spirit of interest in nature for the child. The observation may include any objects which naturally appeal to the child on the earth, in the sky or in water. All things must be considered as wholes—the flowers are not to be pulled to pieces, the fruits cut into bits, nor to any extent the practical uses of any of these things taught. Nature study must not be utilitarian. The instinct of curiosity is appealed to largely as the basis of the work, and we are to lead out into the instincts of play and imitation. Talks by the teacher, nature stories read to the child, must be depended upon to arouse the spirit in the first place and then the teacher is to utilize the material suggested or brought into the school by the child. Remember that nature study is to the child and for the child and from the child's standpoint, and not with the teacher's mind or from the teacher's standpoint.

GRADES IV, V, VI, VII

Exercises and observations

1. Food { For man—Kinds, sources, preparation.
 { For animals—Natural, artificial, sources.
2. Clothing or protection { For man.
 { For animals. } Sources, countries.
3. Observation and study of seeds, grains and fruits.
4. Study of roots, tubers and bulbs.
5. Seed testing.
 For germination.
6. Observation and study of the manner of plant growth and development of plants termed as *annual*, *biennial* and *perennial*.
7. The time of planting and of harvesting.
8. Gardening.
 (a) Vegetable.
- (b) Flower.
9. Study of birds.
 (a) Names.
- (b) Time of appearance.
- (c) Useful or harmful.
- (d) Time of disappearance.
10. Insects.
 (a) Observation and study of the development and life history of several common varieties.
- (b) Useful or harmful insects.
- (c) Time of appearing and disappearing.
- (d) Means of destroying harmful insects.
11. Weights and measures.
 Computation of problems.

NOTE.—Agriculture for the intermediate grades must continue the nature study spirit and introduce the utilitarian values. It should be based almost entirely upon the food products and upon means of procuring clothing and other protection. This work is not to be technical nor to deal very largely in technical terms. The teacher should remember that there are four years for the completion of this work, and these grades should be grouped for these exercises during the four year period, and for one exercise per week. The school garden or the home garden should be used as the center around which all of the other work will be organized and carried out.

GRADE VIII

Agriculture for this grade should be based upon a good elementary textbook. Some of the good ones are named at the close of this topic. We would suggest that the exercise in agriculture be given on not more than two days a week. In any of the textbooks will be found suggestive exercises and these may be enlarged according to the time given to the subject and the local opportunity for home garden work.

The following topics indicate the subjects to be emphasized as found in the ordinary textbook.

1. Study of seeds, grains and grasses.
 - (a) Seeds and grains—form and color, weight and content.
 - (b) Grasses—varieties and uses.
2. Study of buds, leaves and stems.
3. Farm crops grown in the vicinity and uses of each.
4. Legumes—varieties and uses.
5. Soils—types, tillage, moisture, fertility.
6. Seed testing for corn, wheat, oats, clover-seed, alfalfa.
7. Gardening.
 - (a) Planning and platting.
 - (b) Fertilizing.
 - (c) Seed-bed preparation.
 - (d) Planting—depth and distance apart.
 - (e) Culture and tillage.
 - (f) Harvesting.
 - (g) Marketing.
8. The process of potato growing.
9. The process of corn growing.
10. Corn judging.
11. Plant propagation as applied to fruit culture.
12. Care of the dairy cow.
13. The care of milk.
14. Rotation of farm crops and preservation of soil fertility.
15. The elements of forestry, especially as applied to the development and care of the farm wood lot.
16. The beautifying of school and home grounds.

OUTLINE OF SPECIAL STUDIES ACCORDING TO THE SEASON

Fall Term.

Farm Crops. Make a study of corn, potatoes, fruits, vegetables, using the material in some textbook as a base and also observations in the field.

Follow this with seed selection; that is, selecting seed corn, seed potatoes, etc.

Judging exercises—corn, potatoes, vegetables and fruits.

Study of weeds, and collecting weed seeds.

Make a collection of the seeds and grains of the farm crops of the community, these to be placed in small bottles or pint cans.

Winter Term.

Continue exercises in judging of farm products, study different types of farm animals, the care and uses of each.

Give exercises in mechanical drawing. That is, making plats of school grounds, farms, home grounds and farm buildings.

Toward the close of the winter term take up the work in dairying and prepare the older students to use the Babcock Tester.

Spring Term.

Horticulture. Study different methods of plant propagation, seed testing, testing corn, oats, clover seed and garden vegetables, garden preparation and planting.

Soils. Four principal kinds. Secure samples. Study soil tillage, preparation of seed bed, use of fertilizers, development of humus, etc.

This brief outline, gives the work in the order in which it may be profitably done during the year and covers the essentials as found in any elementary text. I think it should be studied in this order without regard to the order in which the text gives it.

TEXTS

Agriculture for Common Schools—Fisher & Cotton, Chas. Scribner's Sons.

Introduction to Agriculture—Upham, D. Appleton & Co.

Beginnings in Agriculture—Mann, The Macmillan Co.

First Principles of Agriculture—Goff & Mayne, American Book Co.

Productive Farming—Davis, J. B. Lippincott Co.

Agriculture for Beginners—Burkett, Stevens & Hill, Ginn & Co.

One Hundred Lessons in Agriculture—Nolan, Rowe, Peterson & Co.

BOOKKEEPING

In accordance with the suggestion of the committee of twelve the following simple forms of keeping accounts are outlined. It is thought that the work is best fitted for the winter term when the older pupils, especially the boys, are most likely to attend school.

It is not necessary that a teacher be master of the intricacies of book-keeping to teach the following business forms and accounts.

The aim of bookkeeping is to keep concise statements of every transaction. So be sure to make full explanations and save every piece of evidence that comes into your possession. Be prepared for the unexpected.

Preparatory work.

1. Teach method of ruling, and of writing dollars and cents in columns.

2. Give much practice in footing columns and striking balances. This is done as follows:

Add the debit and credit money columns. Place the difference (red ink) in the smaller column, and in the item column at the left, write the word "Balance" (red ink). The sum of each column will then be the same. Two red lines are drawn below the footings to indicate that the account is closed. The difference (black ink) is then placed in the money column of the larger side and the word "Balance" (black ink) written in the item column.

3. Teach the general rules that,—

What costs value belongs on the debit side, i. e., left hand side.

What brings value belongs on the credit side, i. e., right hand side.

All cash on hand and received, belongs on the debit side.

All cash paid out belongs on the credit side.

The balance of cash account always shows the money on hand.

A draft is based upon the theory that the drawee has money in his possession belonging to the drawer.

A note, order or draft is negotiable only when made payable to "order" or "bearer."

Notes, drafts and checks when made payable to order must be endorsed before they are negotiated or before they are cashed. Bear in mind that liability is usually incurred when we endorse any paper.

Business men prefer to pay debts by check because this avoids the necessity of keeping money on hand. Before the holder can obtain the cash he must endorse the check. This paid check is returned to the maker and serves as a receipt.

The endorsements are always on the upper left hand end. To illustrate:

As you look at the note following, the writing commences at the left hand end and your pen is in your right hand. Turn the note over with the left hand and across the back near the top, and where the left hand is, write the endorsement, or in other words the endorsement will be on the spindle end of the note.

The following are some of the different kinds of endorsements:

BlankJohn Roe.

QualifiedWithout Recourse.
 John Roe.

RestrictivePay to John Doe.
 John Roe.

Waiving ProtestWaiving Protest.
 John Roe.

SuccessiveJohn Roe.
 Henry Doe.
 Dean Snow.

The following are some of the common forms of business papers as used in business:

Receipt

Lansing, Mich., May 15, 1914.

Received of Richard Roe
Fifty - four ^{and} 50/100 — Dollars.
In full of account.
John Doe.

Note

Lansing, Mich., May 15, 1914.

Thirty days after date I promise to pay
John Doe, or order, \$250⁰⁰
Two hundred fifty & 00/100 — Dollars.
Payable at Commercial Bank.
Value received, with interest at 6%.
Due June 14, 1914.
John Roe.

Joint Note

\$500⁰⁰ Lansing, Mich., May 4, 1914.
One year after date we, or either of us,
promise to pay John Doe, or order,
Five hundred ^{and} 00/100 — Dollars.
Payable at Commercial Bank.
Value received, with interest at 6% —
Due May 4, 1915.
Richard Roe.
John Brown.

Check

Lansing, Mich., 5/16/14.
 — Commercial Bank —
 Pay John Doe, or order, \$53⁴⁰/₁₀₀
 Fifty-three & ⁴⁰/₁₀₀ ————— Dollars
 Richard Rowe,

Sight Draft

Lansing, Mich., May 15, 1914.
 At sight pay to the order of
 John Doe \$52⁶⁰/₁₀₀
 Fifty-two & ⁶⁰/₁₀₀ ————— Dollars.
 Value received, and charge to the account of
 To R.R. Rowe & Co. Richard Roe.
 Detroit, Mich. }

Bank Draft

Lansing, Mich., May 15, 1914.
 The Commercial Bank,
 of Lansing, Mich.
 Pay to the order of John Doe \$105⁵⁰/₁₀₀
 One hundred five & ⁵⁰/₁₀₀ ————— Dollars,
 To College Bank,
 Chicago, Ill. } Richard Roe,
 Cashier.

Define, illustrate and give the value and meaning of every paper used in the course, or in business. Use the dictionary, or have some commercial law text from which an explanation of the terms can be obtained. Get copies of the real papers from some local bank or insurance office. The common papers are notes, checks, insurance policies, contracts, (teachers' contract) leases, deeds, (quit claim and warranty) mortgages, (chattel, and land) abstracts, etc.

Draw up a promissory note and see if it conforms to the following points: Is it sure to come due? Is it properly signed? Is it with or without interest? Is the amount to be paid definitely stated?

When due to whom must it be presented for payment? If payment is refused what is the next step to take so as to hold the endorsers. (The note must be protested, and on the day that it is due. Any bank will gladly inform you all about notes.)

Do not allow notes to run over the due date. Why? Define and illustrate certified checks, bank drafts, cashiers checks. Discuss the various ways of sending money out of town and advantages or disadvantages of each way.

Discuss fire insurance. Get an old policy and study carefully all of the provisions, especially those that are written in or are attached to the Standard form.

This part of the course can be made very interesting, useful and instructive. The different phases suggested above are only a few of the many that can be taken up. Many misunderstandings could have been avoided if the parties had put in writing what they were to do. Insist that students read over every piece of paper and understand the meaning of every word that is used before they sign it.

The field is so broad that one does not know where to stop. Business is always changing. That is what gives it life. Be patient, be thorough, keep at it and compensation will more than repay for the effort.

Statement Form of Account

Student in Account with H. B. Clark

1914

Dr.

Jan.	3	To 25 lbs. Sugar	@ \$0.05	\$1	25		
"	5	" 4 " Coffee	.20		80		
"	15	" 6 " Crackers	.10		60		
Feb.	5	" 1 bbl. Apples		3	00		
Mar.	5	" 1 doz. Oranges			30		
"	28	" 3 bu. Potatoes	.60	1	80	7	75
Cr.							
Jan.	5	By Cash		3	00		
"	8	" 3 Days' Work	@ 1.25	3	75		
Mar.	2	" 500 ft. Lumber	12. M	6	00	12	75
Balance due						5	00
Received of.....(student)							
Five dollars to balance account.							
H. B. Clark.							

Exercise No. 1.

Journalize, post, take a trial balance, make a statement of resource and liability also of loss and gain; close the loss and gain accounts in the ledger, and leave it ready for the next exercise.

- Jan. 1. You commence business and invest cash, \$5,000.
 Bought a bill of merchandise for cash, \$2,000.
 Sold a bill of merchandise for cash, \$1,200.
- Jan. 2. Bought a bill of merchandise for cash, \$2,000.
 Sold a bill of merchandise for cash, \$200.
 Bought a bill of merchandise for cash, \$500.
 Sold a bill of merchandise for cash, \$98.
- Jan. 3. Paid cash for freight, \$25. (Debit Mdse.)
 Received cash for a bill of merchandise, \$328.25.
 Bought a bill of merchandise for cash, \$229.38.
- Inventory: Merchandise, \$3,000.

Exercise No. 1 will appear as follows when journalized:

10

Lansing, Mich., Jan. 1, 19—.

20	Cash	Commenced business,	\$5000	00		
20	Student	investing cash.			\$5000	00
20	Merchandise	1 Bought bill of mer-	2000	00		
20	Cash	chandise from Hill &			2000	00
		Co. for cash.				
20	Cash	1 Sold Jones & Co., bill	1200	00		
20	Merchandise	of merchandise for cash.			1200	00
20	Merchandise	2 Bought bill of mer-	2000	00		
20	Cash	chandise from Hill &			2000	00
		Co. for cash.				
20	Cash	2 Sold Hume & Co., for	200	00		
20	Merchandise	cash, merchandise.			200	00
20	Merchandise	2 Bought a bill of mer-	500	00		
20	Cash	chandise from Snow &			500	00
		Co. for cash.				
20	Cash	2 Sold Frost, W. A. bill of	98	00		
20	Merchandise	merchandise for cash.			98	00
20	Merchandise	3 Paid I. N. R's bill for	25	00		
20	Cash	freight.			25	00
20	Cash	3 Received cash from	328	25		
20	Merchandise	Lane & Co. for mer-			328	25
		chandise.				
20	Merchandise	3 Paid Hill & Co. cash for	229	38		
20	Cash	merchandise.			229	38

(Figures at left margin indicate page of Ledger where each item is posted.)

Exercise No. 1 will appear as follows when posted and closed.

20

Student, F. M.
245 State St., Lansing, Mich.

*Jan.	3	P. W.		5071	87	Jan.	1		10	5000	00
							3	Net Gain	20	71	87
				5071	87					5071	87
						Jan.	3	P. W.		5071	87

Cash

Jan.	1	(Explanation	10	5000	00	Jan.	1		10	2000	00
	1	column see	10	1200	00		2		10	2000	00
	2	note below.)	10	200	00		2		10	500	00
	2		10	98	00		3		10	25	00
	3		10	328	25		3		10	229	38
						*Jan.	3	Balance		2071	87
				6826	25					6826	25
Jan.	3	Balance		2071	87						

Merchandise

Jan.	1		10	2000	00	Jan.	1		10	1200	00
	2		10	2000	00		2		10	200	00
	2		10	500	00		2		10	98	00
	3		10	25	00		3		10	328	25
	3		10	229	38	*Jan.	3	Inventory		3000	00
*Jan.	3	Loss and Gain	20	71	87					4826	25
				4826	25						
Jan.	3	Inventory		3000	00						

Loss and Gain

*Jan.	3	Student's	20	71	87	Jan.	3	Midse.	20	71	87
		Net Gain									

(*Red ink. All rulings in red ink.)

Explanation column. When the amount is from the journal no letter is used as no letter means the journal, but *C.* indicates cash book; *S.*, sales book; *I.*, invoice book, *B.B.*, bill book, etc. The number "10" indicates that the \$5000 is from page ten. If the letter *C.* was written in the explanation column it would mean that the amount was from the cash book, page ten.

Exercise No. 1 appears as follows in a trial balance and financial statements.

Trial Balance Jan. 3, 19—.

	Student				
	Cash	2071	87	5000	00
	Merchandise	2928	13		
		5000	00	5000	00
	Statement of Resources				
	Mdse. Inventory	3000	00		
	Cash	2071	87		
	Total			5071	87
	Liabilities None			0	
	Present Worth			5071	87
	Statement of Gains				
	Mdse. Inventory	3000	00		
	" Debit	2928	13		
	" Gain			71	87
	Losses None			0	
	Net Gain			71	87
	Capital at beginning	5000	00		
	Net Gain	71	87		
	Present Worth or Net Capital			5071	87

Exercise No. 2.

Treat this exercise as you did the first one. Open new accounts as needed, leaving one-half page for the proprietors, a page each for merchandise and cash, one-half page for expense, one-half page for loss and gain, and seven lines for each of the other accounts.

- Jan. 4. Sold a bill of merchandise for cash, \$2,000.
 Bought the store and lot for cash, \$3,000.
 Paid \$500 for a bill of merchandise.
 Paid \$25 for repairs on the store.
 Received \$50 for rent of office rooms in the store from Dr. John.
- Jan. 5. Sold a bill of merchandise for cash, \$600.
 Paid \$50 for insurance on the store.
 Increase your investment in cash, \$4,000.
 Buy a horse and wagon for cash, \$500.
 Paid \$50 for feed for the horse.
 Paid the deliveryman cash, \$25. (Debit Mdse.)
 Sold for cash \$10 of the feed that we bought for the horse.
 Rented the horse and wagon for cash, \$5.
 You take \$10 worth of the merchandise home.
- Inventories: Merchandise, \$900.
 Store and lot, \$3,500.
 Horse and Wagon, \$500.
 Feed, \$20. (Expense.)

(The net capital at closing should be \$9,506.87.)

Be sure to close all of the loss and gain accounts, and any other account that balances. Look and see if all inventories are below the double ruled lines before your commence the next exercise. If they are not down in the proper place, you will be unable to obtain a trial balance.

After having completed Exercise No. 2 the pupil is ready for Exercise No. 3 This exercise contains some transactions which are journalized as indicated in the following illustration.

James, J. Merchandise	Sold J. James on account the following bill of mdse.	250 00	250 00
Notes Receivable Merchandise	6. Sold R. Allison on his 30-day note the following bill of mdse.	200 00	200 00
Field, M. Notes Payable Cash	6. Gave M. Field our 30-day note and cash to balance account.	500 00	300 00 200 00

Exercise No. 3.

- Jan. 6. Sold J. James bill of merchandise on account, \$250.
Sold R. Grimes bill of merchandise on account, \$25.13.
Sold R. Allison bill of merchandise on his 10-day note for \$200.
Bought a bill of merchandise from M. Field on account, \$500.
- Jan. 8. Received from J. James his 10-day note for \$250.
Received from R. Grimes his check in full of account.
Gave M. Field our 30-day note for \$300, and check for the balance that we owed him.
Bought a bill of merchandise from H. Stewart on account, \$500.
- Jan. 9. \$12 worth of merchandise has been destroyed.
Sold J. Cooper on account the following merchandise:
13 lbs. of rice at $5\frac{1}{2}$ c.
15 lbs. of sugar at $7\frac{1}{2}$ c.
9 lbs. of coffee at $25\frac{1}{2}$ c.
Bought the following bill of merchandise from J. Wanamaker, on account:
500 yards of cotton, $2\frac{1}{2}$ c.
700 yards of flannel, $25\frac{1}{2}$ c.
1251 yards of tweed, $87\frac{1}{2}$ c.
Paid \$50.39 cash for freight to the railroad.
Bought 9 tons of coal for use of store, \$5.50 per ton.
Paid \$1 for shoeing the horse.
Bought the following bill of merchandise from J. Wanamaker, on account:
1255 yards of cotton, $2\frac{1}{2}$ c.
755 yards of calico, $10\frac{1}{2}$ c.
Sold J. Cooper on account the following merchandise:
25 yards of cotton, $5\frac{1}{2}$ c.
15 yards of calico, $10\frac{1}{2}$ c.
George Alway wishes to enter into partnership with you. You agree to admit him by his paying you in cash one-half of the present worth of the business. In order to do this you will make a statement of the resources and liabilities, loss and gain, as in No. 2.

Inventories: Merchandise, \$3,000.
Store and lot, \$3,500.
Horse and wagon, \$500.

When you have found how much Mr. Alway is to pay make the following journal entry, post and balance up your account and close all of the loss and gain accounts and all other accounts that balance and do the next exercise.

Student	George Alway pays cash for	4785.97	
George Alway	one-half interest in the business.		4785.97
(Net Gain \$65.06)			

CASH BOOK

The Cash Book is one of the labor saving books. All transactions that have cash in them are put into this book. The left hand page is for cash that is received, and the right hand page is for the cash that is paid out. In case of doubt as to how to make the cash book entry, determine how it would appear journalized. Those items that are put on the left hand page of the cash book are posted to the credit side of that account in the ledger, and those on the right side of the cash book are posted to the debit side of that account in the ledger. (The left hand side of the account in the ledger is called debit side and the right hand side, the credit side.) The difference between the two sides of the cash book is the amount of cash on hand, and this balance can never be on the credit side. That is, you cannot pay out more money than you take in.

The following journal entries are from Set No. 1.

Cash	5000 00	
Student		5000 00
Merchandise	2000 00	
Cash		2000 00
Cash	1200 00	
Merchandise		1200 00

The following illustration indicates how the journal entries given above appear in the Cash Book.

CASH BOOK

10 (page)							(page) 11									
Date		Lodger Page	Explanation	Middle of book				Date		Lodger Page	Explanation	Middle of book				
				Cash in								Cash out				
6				Student	5000	00			6			Mdse.	2000	00	2000	00
6				Mdse.	1200	00						Balance (red ink)			4200	00
					6200	00					6200	00				
			Balance	4200	00											

Write Exercise No. 4, introducing the Cash Book.

- Jan. 10. Deposited all Cash on hand in bank.
Sold J. James bill of mdse. for cash, \$37.39.
Sold J. Cooper bill of mdse. for cash, \$3.98; he also paid amount due us.
Received \$100 from J. James on his note.
Paid \$298.76 for Mdse. by check.
Paid J. Wanamaker \$396.29 on account by check.
Paid \$200 on our note by check.
Discounted our 30-day note at bank. Face of note, \$500.
Discounted at 6%.
Deposit all cash on hand.

- Jan. 11. Sold bill of mdse. to G. Hughes for cash, \$7.63.
 Bought 5 tons of coal at \$4.35 for use of store. Paid by check.
 Paid J. Wanamaker in full of account. Bought N. Y. Draft for which the bank charged \$1.00.
 Sent our certified check to H. Stewart in full of account.
 Bought one ton of hay, \$20.00. Paid by check.
 Bought one package of envelopes, \$0.54 for cash.
 Deposit all cash on hand.
- Jan. 12. Paid by check \$250 taxes and a fee of \$2.50 on store.
 Bought bill of mdse from M. Field, \$546.25. Paid by check.
 Received \$50 from H. Stone, for mdse.
 Each partner withdraws \$25 cash.
 The firm gives \$5.00 check to charity.
 Sold some boxes for \$1.25 cash.
 Paid janitor of store \$25 by check.
 Paid \$13.45 for advertising, by check.
 Deposit all cash on hand.
 Post, take a trial balance.
 (Cash balance, \$484.81.)

Exercise No. 5 contains some transactions that are journalized as follows:

Merchandise	Gave Swift & Co. our 10-day	858 79	
Notes Payable	note with interest at 6%.		858 79
	13.		
Notes Payable	Paid Hill & Co. for our 30-day	400 00	
Int. and Dis.	note for \$400 at 6%.	2 00	
Cash			402 00
	13.		
Cash	Hume & Co. paid their 30-day	402 00	
Notes Receivable	note for \$400 int. 6%.		400 00
Int. and Dis.			2 00

Exercise No. 5.

- Jan. 13. Bought bill of mdse. \$565.75 from M. Field for which we give our check for a bank draft. The bank charged $\frac{1}{4}\%$.
 Bought bill of mdse. worth \$858.79 from Swift & Co., on our 10-day note with interest at 6%.
 Sold bill of mdse. worth \$398.76 to F. Riley for his 30-day note at 6%.
 Sold bill of mdse. worth \$400 to Hume & Co., on account.
 Bought 100 barrels of apples at \$3.50 from G. Doolittle on our 10-day note at 6%.
 We borrow \$2,000 from R. Weston and give a 5-year mortgage on the store bearing 5%.
 We buy a house and lot at 529 Palace Court for \$3,000 cash.
 We pay \$257.86 for repairs on the house.
 We rent the house at \$50 per month, payable in advance, to Dr. Hodges.
 The doctor pays the month's rent by check.
 Paid deliveryman \$20 by check.
 G. Alway takes home \$25.39 worth of mdse.
- Jan. 15. Sold 50 barrels of apples to Hume & Co. at \$4.50 per barrel on account.
 Bought bill of mdse. from Swift & Co., worth \$895.79. We gave them our sight draft on Hume & Co. for \$225; and our check for the balance.
 We insure the house for \$2,000. Fee, \$15. Paid by check.
 Cash sales, \$227.38.
 Sold the rest of the apples to Hume & Co., at \$4.75 per barrel on account.
 Bought 600 bushels of potatoes from Hume & Co., on account, at 50c and sold the same while in his hands to W. McLean at 75c cash.

Pay by check, \$98.76 to the P. M., for freight.

We accept G. Doolittle's offer to take \$350 for our 10-day note.

Pay by check.

We buy 400 bu. potatoes at 50c from Rose & Co., and give in payment
a sight draft on Hume & Co.

Sold \$900 of mdse. to Hume & Co., on account.

Sell \$1,250.87 mdse. to G. Curtis who pays by bank draft.

Balance sheet.

Inventories: Mdse., \$4,000.

Store, \$3,800.

House and lot, \$4,000.

Horse and wagon, \$580.

(The net gain is \$1,695.74.

Student's present worth \$5,608 83.

Alway's present worth \$5,583.45.)

WRITING

GENERAL INFORMATION

The First Essential to successful teaching is the Teacher. If you know that you cannot write well with the muscular movement, take up the systematic course of practice as outlined in this Course of Study and master it. You will meet with no success in teaching this important subject until you do. The teacher must learn to write well on the blackboard. Ten or fifteen minutes a day of practice at the blackboard will in ten weeks enable the teacher to place copies before her class. Never require pupils to practice without a copy.

The Second Essential is Materials. Use a steel pen of medium size and moderately fine point. Stub pens should never be used. The holder should be quite large, of cork, wood, or rubber—avoid metal. A good quality of white paper, ruled about $\frac{3}{4}$ -inch for the second and third grades, and standard ruling for the other grades. Ink must be free-flowing and dark—a good writing fluid is best. The desk must fit the child. Poor materials are dear at any price.

The Third Essential is Position. A good position is absolutely essential for the acquirement of a good handwriting. The writer should sit facing the front, and in the middle of the seat. The feet must not be pushed out in front, or way back. The arms must rest on the desk so that the elbows extend over the edge about an inch and the arm and hand holding the pen at right angles to the line of writing; the other hand holding the paper just above the line of writing and on the edge of the paper. The holder is held loosely between the thumb and second finger, the first finger resting upon the top of the holder and near the end. When properly held the holder will point between the elbow and shoulder, or over the shoulder. No part of the wrist or hand must touch the paper except the nails or tips of the third and fourth fingers. The paper should be pushed from the body, and not the arm pulled off the desk, as the writing progresses down the page. The elbow may be shifted a little in writing the line, or the paper moved to the left a trifle.

The Fourth Essential is Form and Freedom. One should not be sacrificed for the other, but both carried along side by side. If the teacher thinks she cannot do this then form should be given the more attention in the first three grades. Writing is a commercial subject, and in these times speed and legibility are both necessary—one has little value without the other. All letters should be simple, free from flourishes and slanting to the right.

The Fifth Essential is Practice. The movement drills are means to an end, not the end. Begin applying movement to writing of letters and words in the first grade. Aimless practice accomplishes nothing. The writing lesson should be planned the same as any other lesson. A good plan is to practice the exercise first, then the letter, then the letter in the word, then the word in the sentence—giving about the same length of time to each. Encourage muscular movement in all written work, and accept nothing but the pupils's best. Exhibit pages of movement drills and written work, and send specimens to your principal, or commissioner.

If you will observe these Five Essentials, you will succeed; neglect any one of them and you will fail.

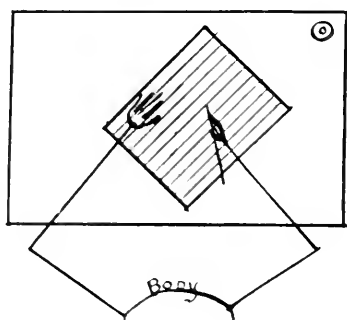
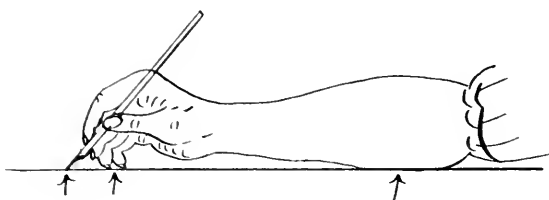
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 run runner mirror rural r
 s s s ss sss sssss sssssss
 see sees sessions scissors s
 E Employ your mind. E.
 G Good penmanship. G.
 D D D D D D D D D D
 Do your best always, Daniel.

L L Learn to write, L L L L
 S S Specimen of my writing
 T T T T M M M M M M M M M M
 N N Nine men in a mine, N.
 M M More movement, M, M, M
 U U Use muscular movement,
 Y Y You must work to win.
 V V Value your time as money.
 W W Willing work wins, W W.
 X X Xenia is a city in Ohio.
 Z Z Zuto and Quincy are cities.
 Z Z Zealous pupils win, Z.
 H H Hitch your wagon to a star.
 K K Keep at it, you must win.
 T T Time is money, T T T T.
 F F Find a way or make one, F.
 I I I must work to win I.
 J J Just good enough is too poor,
 1 2 3 4 5 6 7 8 9 0, 1 1 1 1 2 2 2 2 5 5 5 5 6 6 6 6 3 3.

PPP Push and Pull, *PPPP*
BBB Business writing, *BB*
RRR Repetition, Reputation

Place the following drawings
 on the blackboard:



GEOGRAPHY

SUGGESTIONS FOR TEACHING GRADE GEOGRAPHY

THIRD GRADE

PURPOSE

To provide the child, through observation and experience, with such fundamental geographic concepts as will be helpful to him in the later grades when he is required to go in imagination to distant regions which lie beyond the horizon of his observation and experience.

METHOD

The work in class should be based upon and grow out of observations, field trips, and the first hand study of the various features and phenomena of the home environment. A text is not needed and formal definitions should not be taught.

OUTLINE OF TOPICS FOR OBSERVATION STUDY

1. *Seasons:*

a. Introduction. Have several lessons appealing to the child's experience and intended to make clear to him how change of seasons influences his games, the occupations of his people, the plant and animal life about him. These lessons should arouse interest in the succeeding lessons and observations of seasons and at the same time emphasize that which is vital and essential in modern geography, viz., the relations of life to its environment.

b. Observations to be made.

Beginning in September with the autumnal equinox a series of bi-weekly or monthly observations should be started and carried on throughout the year with the purpose of determining:

(1) Time of sunrise and sunset with the consequent varying lengths of day and night.

(2) Direction in which the sun rises, its path through the sky and direction in which it sets.

(3) Noon altitude of the sun, or angle of the sun's rays as shown by the length of shadow cast by a vertical post.

A record should be kept of these observations, especial care being taken to make accurate observations on the vernal and autumnal equinoxes (March 21 and September 23) and the winter and summer solstices (December and June 22.)

In connection with, and while making these observations the directions, north, south, east and west should be taught. Avoid the expressions "up" for north and "down" for south. Do not teach that east is where the sun rises and west is where it sets. As the observations proceed the pupil will see that the sun rises in the east and sets in the west only at the time of the equinoxes. Let him think of north as the direction in which the shadow of a vertical post falls at noon. Toward a point directly under the pole star may also be taught as north in connection with the observations on the stars.

At the close of the year in May or June, these observations should be summarized and a conclusion reached as to the cause of the change of seasons. It ought not to require much questioning to show that summer is warmer than winter because the days are longer, the nights shorter and the sun's rays steeper, and that change of seasons is due to the changing length of day and night and the changing angle of the sun's rays. That steep rays heat more than slanting rays will usually be demonstrated by a single day's observation of the difference in temperature between sunrise and noon. The above explanation of seasons is the only one that should be attempted in this grade because it is the only one that can be made in terms of the child's experience. The shape and motions of the earth should not be mentioned in this grade in connection with sea-

son, and the explanation which involves their use, should be postponed until the sixth grade.

2. *Moon, planets and stars.*

In connection with the above observations on the position of the sun in the sky, frequently call the pupil's attention to the moon, the brighter planets,—such as Mars, Jupiter and Venus,—and the stars. If possible, lead them to see that these also move across the sky from east to west similar to the sun. Observe the position of the crescent moon, the half moon and the full moon at sunset. No explanation of these various phases of the moon should be given, but such observations will pave the way for an explanation in the later grades which will do away with the quite prevalent idea that the crescent moon and some of the other phases are due to the shadow of the earth on the moon. Teach the Great Dipper (Ursa Major) and how from it to find the pole star, also Orion, the great square of Pegasus, Leo, etc., with a few bright stars, such as Vega, Capella, Arcturus and Sirius.

While not properly included under geography, a knowledge of the few of the heavenly bodies cannot fail to lend interest to the sky and call attention to the motion of all these bodies across the sky or around the pole star.

3. *Weather observations.*

Parallel with the above observations, a non-instrumental record of weather observations should be kept. This should include state of the sky, temperature, precipitation, direction of wind, etc., for each day in the school year.

Date.	Sky.	Temperature.	Precipitation.	Wind.	Remarks.
Nov. 1.	Cloudy.	Warm.	Rain.	S. E. to S.	
Nov. 2.	Fair. ☽	Cooler.		S. W. to W.	
Nov. 3.	Clear.	Very cold.	Frost.	W. & N. W.	

The above table is only suggestive. Under remarks, a record of many interesting phenomena may be kept, such as first frost, leaves of maple beginning to turn red, wild geese flying south or north, first robin, etc. The mere keeping of such a record will stimulate the closest and most varied observations, each pupil being anxious to out-do the others. The keeping of a record furnishes many a point of departure for further observation, such as the more detailed study of snow crystals, dew, frosts, the effects of various temperatures and wind velocities upon rate of evaporation. Do not attempt to explain evaporation or condensation but rather to stimulate the observation and accumulation of facts concerning these processes.

Aim to correlate wind directions with state of the sky, temperature, precipitation, and to determine what winds give us the clearest skies and coolest weather, or warmer temperatures, cloudy skies and rain or our heavy snow storms. The explanation of all this will come in the later grades. The child should learn that it is changes in the directions of the wind that cause changes in weather.

4. *Forms of land and water.*

The aim of the observations undertaken should be to give the child good clear mental pictures of such relief and water forms as valley, gully, gorge or canyon, flood plain, alluvial fan, slope, hill, divide, brooks and rivers, rapids and falls, lakes and swamps, together with some notion of the action of streams in washing and depositing so as to form many of the above relief forms.

These are to be studied through field trips and excursions. It is left to the teacher's ingenuity to find time and place for these excursions, but it is strongly urged that she manage in some way, at noon, at recess, or after school, to take many of these trips. She should first go over the

ground and carefully plan out each trip in advance. Let her walks through the fields have a purpose in them. Visit some near-by creek or brook, wander along its banks from time to time noting how mud, sand and gravel are being carried or rolled along its bottom, how this load of waste and the volume of the stream vary before and after storms, how the stream is cutting on the outside and depositing on the inside of every curve, how some valleys are narrow at the bottom or V-shaped, while others have flood plains on either side. On the steeper slopes along these valleys or of some neighboring hill, the temporary torrents or streams, which gather after a heavy rain, may have cut these slopes with gullies and at the lower end of these gullies have spread out their load of sand and gravel into fan-shaped deposits known as alluvial fans or cones. A delta formed in a wayside puddle by the deposition of waste from some mud-laden streamlet will usually illustrate all those characteristics and features of such larger deltas as those of the Mississippi or the Nile, and with the great advantage that they can be grasped as a whole by the child's mind, thus forming a concept which can later be enlarged to include those more distant ones. In this way the teacher should plan and prepare for the various field trips which she hopes to give during the year.

This out-of-door geography and these field trips should not be confined to the third grade alone. Whenever in the later grades the home region furnishes anything which can aid in making real to the pupils some distant region, then that particular thing or feature should be the introduction to the distant region and should be revisited and restudied.

MAPS AND MAPPING

There are few things which a child acquires or ought to acquire in school that will be of more permanent value to him than the ability to read and use a map. A map is not a picture. The features represented on a map are represented by means of symbols which often have no resemblance to the features themselves. The map work in this grade should therefore be to make the child familiar:

1. With the things and geographical features themselves.

2. With the use of symbols by which these features are represented upon maps. The pupils should never be required to use a symbol on a map until he has become familiar, either through observation and experience or pictures, with the thing symbolized.

The first maps studied by the child should, therefore, be of things and places with which the child is so familiar that neither time nor attention need be spent upon the things themselves, but be centered upon the idea of representing them by symbols. Maps or plans of the schoolroom and school yard should, therefore, be used first. The idea of *scale* enters at once, as soon as the region mapped becomes larger than the paper upon which it is mapped. The maps should be drawn to scale, a half, quarter or eighth of an inch on the paper, representing a foot, yard or rod on the region mapped. As the observation work is extended so as to include streams, valleys, hills, plains, alluvial fans, etc., the maps of these various features should be extended until at the close of the year the child is familiar with both the region and its map.

Just as the idea of scale should be introduced very early, so also should the idea of *directions* on a map. The maps drawn in this grade should always contain some symbol to indicate directions *such as an arrow* which points north, or some other device. The teacher should make no effort to have north always at the top of the map. Indeed, it would be well that north be often at the bottom at one side or one corner of the map, the child always telling where north is by the symbol employed to indicate direction. On only a few of the maps studied in the later grades will the top be north, that is, will a line drawn from any point on the map straight to the top be a north and south line, but every map will contain a symbol which indicates direction and the child should early acquire the habit of looking for the direction symbols on every map.

The teacher should draw the maps of the schoolroom, school grounds and school district, herself. There is nothing to be gained by having the pupils draw them. The object of this work is to teach the pupils to

understand maps and use maps, not to draw maps. Map drawing comes later. The maps made by the teacher should be drawn to scale, be large enough to be seen from the seats, and be upon durable material so they can be carried about the room and out of doors.

The teacher should plan exercises to drill the pupils in identifying symbols, telling direction from the map, and using the scale. Let different pupils go to the map and point to the symbols for their own seats, the seats of other pupils, the teacher's desk, stove, etc. Let one pupil walk about the room and another point out on the map where he went. Let them tell from the map the direction of various objects in the room from the teacher's desk, the stove, etc. Let pupils measure on the map and use scale to find the distance various objects in the room are from each other. Have similar exercises on the map of the school grounds. The map of the school district should show each pupil's home so that he can point it out, find the distance from school, etc., by means of the scale of miles. This drill work cannot be overdone and the better the pupils understand these local maps the better prepared they will be to understand maps of distant regions in the next grade.

OCCUPATIONS AND INDUSTRIES OF THE HOME REGION

Observation work is just as necessary in the study of industries as in the study of weather, seasons and streams. The aim of the work should be to give the pupils good, clear concepts of the various industries of his home environment which shall, in the later grades, be the basis for imagining the industries of distant regions.

1. *Agriculture.*

In the fall make a study of the various crops raised in the vicinity, the soils upon which they grow, the processes of gathering those crops, and the uses to which they are put. In the spring the preparation of the soil, planting and tilling of various crops should be studied. Note especially the relation of soil both to the kinds of crops raised and the quantities produced.—what crops are raised on sandy soils, loams, heavy clay soils, muck or marshy land. A careful study of the soils of the neighboring fields should be made.. This study of soil in relation to crops leads naturally to a study of the origin of soil and how rocks are crumpled and broken up by frost action, changes of temperature, etc. Notice and explain the differences between soil and subsoil which may be seen in every excavation. Study also in connection with agriculture various specialized and associated phases of the industry, such as market gardening, truck farming, stock raising and dairying. Much excellent work in agriculture can be done in connection with geography.

2. *Commerce.*

The study of agriculture leads naturally into that of commerce and can be well studied in late fall and winter. When a farmer has put aside from the products of his farm a sufficient amount to supply the needs of his family, his stock, and his seed for the next year, and has still a surplus of corn, grain, potatoes and other products, he naturally seeks a buyer, but not among his neighbors, for they are engaged in the same occupation that he is and have the same needs and wants and the same things to sell. He seeks a buyer among people who are engaged in different occupations and who, for that reason, have different needs and wants from his. This leads him to carry his products to the town or city where he exchanges them for money or articles which he needs. This is commerce and grows out of diversity of needs and wants which in turn grows largely out of diversity of occupation. The above principles are fundamental and may be grasped and understood by the third grade pupil if studied as they apply to his own home life and neighborhood. This makes commerce a real thing to him and not a far-away matter of ocean steamships. It is worth while for him to realize that because his father hauls his grain or potatoes to town, the commerce of freight trains and steamships is in part made possible.

The old farm wagon has a new interest. It is one of the means of the

world's commerce. Roads and bridges are also means of commerce and the necessity for good roads may be appreciated. This work leads naturally to the study of the neighboring town or village as a commercial center. Nearly all of the pupils have been to town many times. Let them report on what they have seen in the town that is different from the country, viz., the houses being close together, streets and sidewalks, necessity for fire protection, the stores, warehouses and grain elevators, the railroad by which the town sends its surplus to other towns and regions and receive in exchange various articles which it and the surrounding country need. Contrast life in the town with life in the country, the advantages and disadvantages of each.

Have the children make lists of various articles exported from and imported to their parents' farms and, by combining these lists, get an idea of the exports and imports of their district. Let them learn some of the distant regions of the earth that supply them with various necessities, such as coffee from Brazil, tea from China and Japan, rubber from the Amazon Valley.

3. *Manufacturing.*

Whenever and wherever the district offers opportunity for the study of manufacturing the teacher should take advantage of the opportunity to give, through observation, a foundation concept of this branch of industry. A very simple phase of the process is sure to come to most schools when the threshing machine visits the neighborhood. More typical, however, is the grist-mill, saw-mill or creamery in that the manufacturing plant is here stationary and the raw material must be transported to the power or factory. These observations should be directed to the establishment of the following conditions as necessary for manufacturing as carried on to-day:

- a. Power and, if possible, the various means of obtaining it, such as water power, steam, gasoline, electricity and wind power.
- b. Raw material.
- c. Food supply for employees.
- d. Labor.
- e. Commercial facilities, either wagons, freight cars or vessels for bringing raw material to factory and sending away of manufactured products.

Encourage and stimulate the children to observe and report all the various forms of manufacturing carried on in the district. Let the pupils prepare lists of raw materials furnished by the district, also of manufactured articles exported from or imported into the region. Have pupils find out the kind of plows their fathers use, and where they are made; similarly with buggies, wagons, binders, sewing machines and other articles of farm and household use. In this way, and as described in greater detail under the next topic, the connection should be made between the home region and distant regions.

COMPARATIVE HOME GEOGRAPHY

The pupils have found in the study of the commerce of their home region that it is dependent upon and contributes to many other regions in many different ways. It is because of this mutual dependence that these distant regions should be known, and it is this dependence and relationship which furnishes the line of approach to the study of distant regions. There is another reason for learning something of other countries and regions here in the third grade.

In the fourth grade globe study will be taken up and many facts will be learned of the earth as a whole. The pupils will learn that the surface of the earth is divided into continents and oceans. They will learn the names of these and see them represented on the globe by means of symbols. Now, if it is necessary for them to know by experience real rivers, hills and plains before they see them represented by symbols on a map, it ought to be equally necessary that the child have some ideas concerning a continent or country and the people who live there, before he sees on a globe or map the symbol representing that region. His first contact

with South America, for example, should not be through its symbol. He should have ideas and mental pictures of various parts of the region which that symbol may call up. Since the only basis he has for comprehending distant regions is through experience gained in his own home region, he can best understand the distant by comparing and contrasting it with the near.

It is therefore recommended that from time to time simple descriptions and stories be read or told the children and that pictures be shown them of other lands and the life in them. The regions selected may be either those which send to us or receive from us some useful and necessary article, as China, which sends us tea and silk; or Brazil and the Amazon Valley, which send us coffee and rubber; or those regions of the earth which differ from our home region very markedly, such as the Sahara Desert, a mountainous region like Switzerland, or a cold region like Lapland or Greenland. One or two regions should be selected for study from each continent so that when globe lessons are taken up in the next grade, pupils will have heard the names of each continent. Use the names of countries and continents freely but do not show the maps of these regions in this grade. Remember—things before their symbols.

References for Comparative Home Geography.

American Book Co.	Big people and little people of other lands.	Shaw	\$0 30
Educational Pub. Co.	Children of the cold	Schwatka	50
Educational Pub. Co.	Children of the palm lands	Allen	50
Ginn & Co.	Each and all	Andrews	50
Ginn & Co.	Northern Europe		30
Ginn & Co.	Seven little sisters	Andrews	50
Ginn & Co.	Strange lands near home		30
Ginn & Co.	The wide world		30
Ginn & Co.	Towards the rising sun		30
Ginn & Co.	Under sunny skies		30
Lathrop Pub. Co.	The little folks of other lands	Chaplin	60
Macmillan	Excursions and lessons in home geography	McMurry	50
Macmillan	How we are clothed	Chamberlain	40
Macmillan	How we are fed	Chamberlain	40
Silver Burdett & Co.	Around the world geographical readers.		
	Three books	Carroll and others.	
F. A. Stokes & Co.	The snow baby	Peary	1 20
Lippincott	Home life in all lands	Morris	1 00

FOURTH AND FIFTH GRADES

The work in these grades after the preliminary globe lessons will be regional in character, the aim being to give the pupils good clear concepts of the various regions studied together with the main and fundamental facts concerning their location on the earth, their surface and climate, the occupations of the people, location of a few of the most important cities, etc. The map should form the basis for the work and should be constantly in use. The first book is taken up and completed in these two grades. While the aim in these grades is to lay a broad, deep foundation of facts, yet the geographic relation of facts as to cause and effect should not be neglected entirely. Some of the more easily understood relations of man and life to environment should be emphasized.

The pupil's memory is now very active. Things learned at this time are long remembered. Now the child is learning the multiplication table in arithmetic. Now is the time to fix the basal facts of place geography such as the names and locations of countries, cities, rivers, mountains, etc., but do not attempt to do this by having long lists of places committed to memory, but grow out of the regular work by the cultivation of the atlas habit and the use of base maps as described below.

GLOBE LESSONS*

1. *Continents and oceans.*

In Comparative Geography of the third grade, pupils have had stories and descriptions of regions selected from all continents. The first step in globe lessons should be to develop the idea that we live on a round earth and that its surface is divided into large land masses called continents and large bodies of water called oceans. As the teacher points to the symbols for the continents and tells the pupils that this symbol stands for the continent on which they live, or for Europe or South America, and lets the pupils tell what they know about these regions, the symbols will come to stand for real places in which real people live. Bring out the general shape of the continents, the larger seas, gulfs, bays and rivers. Drill on the globe until every pupil knows and can point out on the globe the continent and more important countries.

2. *Directions on the globe.*

In the maps of the schoolroom and school grounds used in the third grade, directions were indicated by an arrow which pointed north. Develop the idea that direction symbols on the globe are meridians and parallels; that two places are north and south from each other only when they are on the same meridian, or east and west from each other only when on the same parallel. Drill on the use of meridians and parallels for telling directions until every pupil tells directions on the globe easily.

3. *Latitude and longitude.*

On the maps of the schoolroom pupils have located their seats in the room by saying that their seats are so many seats east or west and so many seats north or south from some other seat. On the map of the school district they have described the location of their homes by saying that they live a certain number of miles north or south and a certain number of miles from the schoolhouse. In a similar way places are located on the globe by giving the number of degrees that a place is east or west from the prime meridian and north or south from the equator. Drill, drill, drill on this matter of latitude and longitude until every pupil can locate places when their latitude and longitude are given or find the latitude and longitude of places from the globe. Easy numbers, multiple of ten for latitude and of fifteen for longitude should be used, such as 40°N. and 60°W.

4. *Size of the earth.*

Every globe has a scale of miles. It may be found by dividing the circumference of the earth in miles by the circumference of the globe in inches. The quotient will be the number of miles to the inch on the globe. With a strip of paper let the pupils measure the distance on the globe in inches between many places and then change this to miles by multiplying by the number of miles to each inch. In this way have the pupils find the length and width of the continents as they are studied, and other distances.

5. *Motions of the earth.*

(1) Rotation. Do not attempt to prove that the earth rotates but give instead some consequences of rotation such as:

(a) Succession of day and night, the day as a unit of time, and how our life and habits of work and rest are regulated by the alternating periods of darkness and light.

(b) Directions. North is toward the north pole, south is toward the south pole. The poles are the ends of the earth's axis. The axis is the line on which the earth rotates or turns. If there were no rotation there would be no axis, no poles, and no directions. Do not say to the chil-

*For this work an eighteen-inch globe is almost a necessity. The globe should be studied under the teacher's immediate direction and observation, and should be large enough so that the whole class can see clearly and distinctly the various features and regions studied. The difference in cost between a twelve and eighteen-inch globe is more than made up by the increased value of the latter over the former. The most convenient and durable globe which the writer has been able to secure is the pendant globe, sold by many companies.

dren, "Up" for north and "Down" for south. Say instead "North" when you mean north and "South" when you mean south.

(c) Revolution. This motion cannot be proven to the children. All that can be done with it is to say that the earth does go around the sun and that the time it takes to do this is called a year. Above all things do not teach that revolution causes seasons when it is but one of the three or four different factors that cause seasons. Instead of trying to show the effect of revolution in helping to cause seasons, review how the long days and steep rays make the summers warm and short days and slanting rays make the winters cold as the pupils discovered in the third grade from their observations.

6. *Climatic conditions on the earth.*

The basis for this work has been laid on the observation study of seasons and weather in the third grade. Review what the pupils there learned from observation as to the relation of high sun and low sun to the warm temperatures of summer and the cold ones of winter. If the teacher will now carry the class in imagination to the equator and tell them where the sun rises and sets and where it is at noon at various times during the year, emphasizing the steep rays which always fall here, the pupils from their own experience with steep rays and a high sun ought to infer the hot temperatures of this region. Then carry them again to the "land of the midnight sun" with its slanting rays and low sun and let them infer the conditions of temperature there.

Teach the hot moist climate that is found in the doldrum belt near the equator, bringing in the daily rains of that belt. As typical of the weather in this belt some hot, sultry day in May or June should be selected in the home region, when in the afternoon there is a heavy downpour of rain from some passing thunderstorm. Contrast with this rainy belt the hot, dry regions on either side over which the trade winds blow making such deserts as the Sahara, Kalahari, and the one in Australia. Now contrast with the uniformly hot and dry climate of the deserts or uniformly hot and moist climate of the doldrum belt, the variable weather of the temperate zone as it has been observed by the child. Yet, even with all its variations and changeableness there are certain types of weather prevailing for a short time in every district of the state which may well characterize all the great types of climate in the world.

REGIONAL GEOGRAPHY

1. *Transition from globe to map.*

As soon as it becomes necessary to represent various features of surface drainage, etc., with greater detail than can be done on a globe, the map must be introduced. Certain precautions are necessary that the pupils do not form wrong conceptions owing to the flat surface upon which a map is made.

By this time the pupils should have become so familiar with the globe that they are able

- a. To locate any place in approximately its correct latitude and longitude.
- b. To tell directions on the globe.
- c. To know at a glance the names of the various continents from their shape and outline.

The first step in the use of a map is to be able to tell directions on the map. If there has been proper globe drill this will be an easy step, for just as meridians and parallels on the globe run respectively north and south, and east and west, likewise on the map do they indicate direction, and two places are north and south or east and west from each other only when they are on the same meridian or the same parallel. If children have been taught that the top of the map is north, the bottom south, the right hand side east, and the left hand side west, then time should be taken right here and now to *unteach* this idea which is true only on a few particular kinds of maps, and teach in its place the correct method of determining direction from meridians and parallels which is true on all maps. Give plenty of drill in the use of these direction symbols by

asking the direction of places from each other, the trend of mountains, courses of rivers, etc.

The second step in the use of the map is the understanding of scale. This ought not to be a new idea if the map work in the third grade has been done properly. One of the first questions to be asked when any map that can have a scale is studied is "How many miles does each inch on the map represent?" *Use the scale* constantly in determining distances between places, length of rivers, width and length of highlands.

Many symbols will appear on the flat map with which the child is not familiar. Care should be taken that the pupil shall not use these symbols until he first knows their meaning. When he can tell direction on the map, locate places when their latitude and longitude are given, and vice versa, knows how to use the scale, and knows the meaning of all the various symbols, he is then prepared to read and study the map.

2. *The use of the map.**

For every region studied there is much information concerning position, form and boundaries, size, surface and drainage, that can be much better read from the map than it can from the text. This work should be done in the class and from good wall maps. The Sydow-Habenicht and Goode maps are excellent for this purpose. The work of map reading should be done at first under the teacher's direction and questioning. Organize your class into an imaginary exploring party and acquire in half an hour from the map information which required years of toil and the cost of the life of many a brave explorer to accumulate. As you sail in imagination up the Amazon or Nile or Mississippi, tell them by word and picture of the wonderful sights that would greet their eyes were they really sailing up those rivers. Make the symbols on the map speak of real rivers, mountains and plains. When the map has told all it can in this way, send the pupils to the text to read what it has to say. What it does say will mean something, even if only a repetition of what they have already found out from the map, because they are prepared to understand it. They will be surprised and delighted to know that they can write from the map as good and as full descriptions of surface and drainage as their text contains. Give them not one, but many chances to do this. Have them study carefully the text with the end in view of determining how much of the information given in the text could be acquired from a map.

3. *The atlas or map habit.*

It is quite necessary that the child should learn while in school the location of many important places and physical features. It was formerly supposed that this could best be done by map questions and by giving long

*It is the business of school boards to provide such necessary material as a globe and wall maps. The usual cheap set of wall maps in cases, found in most rural schools which sell at from \$8.00 to \$11.00 for a set of eight maps, is almost worse than none at all. In the first place they are political maps rather than physical maps and contain a conglomeration of political boundaries of states, cities, towns, etc., which covers up and hides the great physical features that have perhaps caused these boundaries to be drawn or the cities to be located where they are. It is vastly more important to have a set of wall maps that shall make the great physical features of the earth, its great highlands, lowlands, mountain ranges and drainage lines, stand out so sharply and clearly that their location and relations to each other shall be fixed forever in the minds of the pupils, than it is that they contain great numbers of second and third class cities. It is these great physical features that are the determining factors or conditions in geography. Desirable maps cost money. No publisher can afford to put a decent set of maps on the market at a cost of one, two, or three dollars each. Maps like those mentioned above cost from six to seven dollars each, but even at that price a set of six or seven maps is possible in every district in the state. When one goes about the state and sees the amount of money that is wasted on cheap wall maps, expensive reading and physiology charts, or science cabinets, that are seldom used, one wonders at the economy practiced by boards of education. Yet the motive that has prompted the purchase, in nine cases out of ten, has been the desire to make better work possible.

This note has been written that through it teachers may more wisely advise their boards along this very line. An eighteen-inch globe and a set of Sydow-Habenicht wall maps (Rand, McNally & Co.) in every rural school would work wonders in grade geography. The new Goode Physical Maps are quite satisfactory maps by an American publisher.

lists of places which were to be located on the map and the locations committed to memory. Those who have come through such a process know how useless it was and how, as soon as the drill ceased, these unassociated names and places began to slip away until now only those remain which we have since had occasion to use.

It is here suggested that instead of this abstract committing to memory, the teacher at this impressionable age start the pupils aright in the formation of the atlas habit. Whenever and wherever, in the preparation of a reading, history or geography lesson, the pupil reads of a city, river, mountain or other geographical feature, the teacher should insist that he stop then and there and look up on his map the location of the place. Places located in this way have something with which they can be associated and will be remembered the longer because of this association. If the habit of consulting the map can once be formed in the grades, it will solve once for all the problem of location of places in geography study.

4. *The use of small outline or base maps.**

It is not enough that pupils shall read maps, find the location of places upon maps, and cultivate the atlas habit. Pupils should express their geographical knowledge upon maps. The map should be a means of geographical expression as well as impression. Pupils should make maps. This is usually done by having the pupils draw maps from memory. The practice has hardly a single argument in its favor. It serves to impress incorrect ideas of form rather than correct ideas because pupils cannot draw correct maps and in thus drawing maps from memory the mistakes are fastened in the pupils mind as well as correct ideas.

Instead of memory maps provide the pupils with small outline maps showing the boundaries of countries, the chief rivers, etc., but without names. If you wish to impress the shape of a continent, have the pupils trace over the coast line with pen or pencil making them heavier. To teach rivers let them print the names of the more important rivers on the various rivers shown on the outline map. With colored pencils the pupils can color in the various countries whose boundaries are shown on the outline map. Symbols for cities may be located on the map and their names printed. The use of these maps more than anything else will tend to fix in the child's mind the main facts about the locations of the various countries, cities, rivers, etc., studied in these grades.

In the lower grades pupils are interested in activity for the sake of activity but in the intermediate grades the pupils are interested in activity for the sake of the result they get. They will usually be delighted to fill in and use these maps.

The sand table, if used at all, should be used only as a means of expression by the child and not by the teacher as a means of teaching new ideas and concepts. If the child has studied directly some alluvial fan, gully, or valley, the reproduction of his conception of it is an excellent means of fixing the concept clearly in his mind.

5. *The use of text and supplementary readers.*

In most existing textbooks there is a mass of information, some of which may well be acquired from the map and not from the text. To distinguish between these two classes of information is a valuable exercise. To distinguish between and bring out the important from the unimportant, to drill, illustrate, explain and supplement the text, is the function of the teacher. Teach the child to extract the meaning from the printed page without committing it to memory word for word. There is little in any text that needs to be thus committed. Don't expect the child to know every city, stream, mountain peak and range that the text mentions. Let him locate them on the map as he reads about them, for the sake of the atlas habit which you are to cultivate, but don't expect that all will be remembered. Study the most important cities and physical features so thoroughly that they cannot be forgotten.

*Outline and base maps for use with the pupils can usually be obtained from various publishing houses or by writing to the geography departments of the normal schools of the state.



Lack of space has made it necessary for the authors of grade text so to boil down the subject matter which they present that it is little more than a skeleton of geographic knowledge. To give life and interest to these dry bones of fact, the teachers and school boards are urged to provide the pupils with geographical readers. A single set is better than none and if the teacher can get it in no other way she should purchase it herself and consider it as part of her outfit for teaching. The information she will get in this way will more than repay in satisfaction for the money invested. Clippings from newspapers and articles from magazines may be

accumulated in unlimited quantities and at little expense. Every effort that is possible should be made to clothe the bare facts of the text with the life and interest which the study of geography ought to inspire.

6. *Study of Michigan and the region of the Great Lakes.*

The custom has been to have the study of the home state follow immediately after that of home geography in the third or fourth grades. After one gets beyond the limits of the child's experience the transition can be made as easily from the home region to the whole continent or the whole United States as it can to the State. Moreover, if Michigan be studied at that time it must be studied in isolation from the surrounding states and the industrial and physiographic division to which it belongs. It is recommended therefore that the study of the home State be postponed until in the regular progress of the work it can be taken up and studied in its proper setting in the Great Lake Region to which it belongs. Because it is the home State more time should be devoted to its boundaries, coast line, shape and size, surface, drainage, mineral resources, industries and cities than is commonly devoted to those topics in other states. Most textbooks have special Michigan editions with good accounts of Michigan geography in their back part.

SIXTH AND SEVENTH GRADES

The point of view and emphasis in these grades change to another phase of geography. In the previous grades the work was largely observational and descriptive in character, because the observational and imaginative activities of the child were then dominant. The pupils have been growing older, other mental activities have been coming forward which make it not only possible but necessary that the rational side of the subject shall be introduced more and more as the work progresses. By rational geography is meant the study of the subject matter from the point of view of cause and effect. In the study of the Sahara desert, for example, the arid conditions should not only be described, but they should be traced backward to their causes and forward to their effects on the life, habits, dress and occupations of the people. The culminating interest in geography centers in the life of man, his occupations, his commerce and manner of living. Almost any one of these topics, if traced backward to its causes and determining conditions, soon ends in certain conditions of his physical environment. To understand life on the earth we must first know and understand the physical environment of that life.

At the beginning of the sixth grade, when the second or advanced look is usually taken up, it is recommended that a more detailed study of the physical factors and forces of geography be made than has heretofore been possible. The attention given to this side of geography in the previous grades has been more to the securing of good, clear, mental pictures of physical features and the acquisition of facts than to the explanation of those features and facts. In this second study of physical environment, emphasize the processes concerned and the forces at work in producing that environment.

PHYSICAL GEOGRAPHY

In most texts used this work will include the following topics:

1. *Shape and size of the earth.*

Some proofs of the earth's shape may now be given with hopes of their being understood. Sailing around the earth and the appearance of ships at sea, as usually stated, prove only curvature. State them so they prove equal curvature in all directions. Even here these proofs mean very little unless they can be actually experienced. Let the child see that the size of the earth is an important factor; that because of its size, and its great barriers of oceans and mountains, the people of the earth have been separated and isolated from each other; and that because of this separation

and isolation there have arisen differences of language, customs, manner and race. Latitude and longitude are measured in degrees and not miles, because the earth is curved. As we move north or south over the earth, new stars rise above or sink below our horizon and from their change of position we are able to find our latitude.

2. *Motions of the earth.*

a. Directions as a result of rotation. Re-emphasize this fact that it is rotation which makes the finding of direction possible. Various methods of finding the north pole star and Great Dipper; shadow at noon; point the hour hand of a watch towards the sun, then half way between the hour hand and the figure twelve on the dial will be south; the compass points towards the north magnetic pole and not towards the true north pole. It does not always point north therefore, but in Michigan it varies but little from true north.

b. Longitude and time—standard time, international date.

Show how a spherical earth rotating causes the sun to rise and set and cross the various meridians at different times, and how, by knowing this difference of time between places, we can find difference of longitude. Emphasize the fact that because the earth is spherical and rotates from west to east, sunrise, noon, sunset, midnight, and with it the new day, all come from the east, that New York has sunrise, noon, sunset and the new day before Detroit, and that the new day begins at the 180th meridian or the international date line and travels around the world to the west ending again at the date line when midnight reaches it. All of this, together with the length of the day, is a consequence of rotation.

c. Seasons.

In the third grade the pupils learned from observation that summer is warmer than winter because its days are longer, its nights shorter, and the sun's rays are steeper. The explanation of why the days are longer and the sun's rays steeper in summer than in winter is too difficult to be attempted until now. It is believed that in connection with the motions of the earth it can now be shown why this is so and why we thus have change of seasons.

3. *The atmosphere.*

a. Its composition, pressure, etc.

b. Water vapor. How it gets into the atmosphere and the conditions governing the rate of evaporation; how it gets out of the atmosphere and the various forms into which it condenses—fog, clouds, dew, frost, rain, snow, hail.

A common error in teaching the relation of mountains to rainfall is here to be guarded against. The usual statement is that the wind blows against the cold side of the mountains, is cooled, and its moisture condensed into rain or snow. If this were the cause the vapor would gather from the atmosphere upon the cold rocks as dew or frost and there would be no rainfall.

Whenever a gas is compressed it is heated as one may see by noticing how quickly a bicycle pump becomes heated in pumping up the tires. When the pressure upon a gas is suddenly decreased it expands and becomes cool, as all know who have noticed how cool the air is as it escapes from the valve in a bicycle tire. Now, when air moves up a mountain slope it is rising into regions with less air pressure. As the pressure upon the rising air decreases it expands and cools just as does the escaping air from the bicycle tires. It is this cooling which causes the condensation into rain or snow. It is called cooling, by expansion and is the chief cause of the cooling which produces rainfall everywhere.

c. Air temperatures.

(1) How distribution of temperatures over the earth is represented on a map by isothermal lines.

(2) Causes of unequal temperatures between the equator and the poles.

(3) Causes of unequal heating of sea and land. CAUTION—The high temperatures of Western Europe and Western North America are due more to the unequal heating of sea and land than to the Gulf Stream and other currents. In winter the ocean is warmer than the land and would be were there no ocean currents. Winds blowing from the west carry these moderating temperatures to the west coast of Europe. If the prevailing winds blew from the east the British Isles and Newfoundland would exchange climates. Put the emphasis upon unequal heating of land and sea and the prevailing winds rather than upon ocean currents.

d. Winds.

(1) How unequal heating of the air causes it to circulate and winds to blow.

(2) Teach thoroughly the location, direction of wind, and other characteristics of the following wind and calm belts.

(a) The trade winds.

(b) The doldrum belt.

(c) The horse latitude calm belts.

(d) The westerlies.

Constantly be on the outlook for conditions in local weather which illustrate the types of weather found in these various regions.

(3) Show how migration of these belts causes wet and dry seasons—as in California and regions near the equator.

(4) Monsoons—due to unequal heating of land and sea in winter and summer.

(5) Land and sea breezes due to unequal heating of sea and land by day and night.

(6) Cyclonic storms and how they control weather in the temperate zones.

e. Weather.

It is time that the schools do something to destroy the superstition and ignorance that prevail as to the cause of weather and weather changes. The moon does not control weather, there is no equinoctial storm, and no one can at present foretell weather accurately a year, or even a month in advance. Teachers should look up this topic and be able to explain the weather changes as they occur. Write to the nearest weather bureau station and ask that the daily weather map be sent to your school.

4. *The ocean and ocean movements.*

The oceans, their extent, depth, nature of their bottoms, wind waves, tides, and the chief ocean currents. The relation of wind to waves and to ocean currents should here be brought out. Show also how the currents generated by the winds are deflected by the continents into their present courses.

5. *Rain and river erosion and land forms.*

Teach by observation in the neighboring fields how the water running off after a storm erodes gullies in the hillsides, how these gullies grow wider, deeper and longer with each storm until they are finally cut to the depth at which water stands in the ground when they thus acquire permanent streams. Show by example if possible how these valleys at first are narrow and V-shaped, often with falls or rapids and lakes in their courses; how in this condition they are said to be young valleys, but the side wash on their sides and streams in their bottoms destroy the falls, fill up and drain the lakes and, swinging from side to side, cutting on the outside of each curve and depositing on the inside, gradually widen the valley bottom forming flood plains, the valley thus passing into maturity and old age. Take up the other erosional forms of the text found in the neighborhood and give the pupils as clear conceptions as possible of how the weathering and erosive forces sculpture the surface of the land into all its varieties of form.

6. *Glaciers and glaciation.*

Introduce them to the mountain and valley types of glaciers now existing in many regions, showing the various phases of erosional work of these glaciers, how they smooth, polish and striate the rocks over which they pass and how they form moraines along and across their valleys. Now search the clay bank along streams, the excavations for cellars and ditches, to find rocks in the home region which have been smoothed, polished and striated by glacial erosion, thus proving that their region was once beneath an immense ice sheet which brought and distributed over this region the thick deposits of drift upon which they live. In this grade when the United States is studied more intensively and in greater detail, give them some idea of how the Great Lakes and the thousands of smaller lakes in northern United States were produced as a result of this glaciation, thus bringing out the relation of the effects of glaciation to man.

7. *Coast lines and the various forces and agents at work in changing them.*

OUTLINE FOR CONTINENTAL STUDY

In these upper grammar grades each of the continents should be studied once as a whole, the aim being to bring out the casual relations existing between the various topics in the following outline. Much of the information may be acquired from globe and maps. The outline serves also for the study of countries.

1. *Position.*

- a. In relation to other continents and great commercial nations.
- b. In relation to oceans.
- c. In latitude and longitude.
- d. In relation to prevailing winds.
- e. What does position tell us of the climate of a continent?

2. *Form.*

- a. General form—memory maps drawn to impress general form.
- b. Detailed form or coast line—regular or irregular, low, flat, sandy or marshy, high, steep or rocky. Was coast formed by rising or sinking of the land in relation to sea level? Chief indentations, peninsulas—continental shelf, how formed, where wide, where narrow—effect of an elevation of 600 feet upon land area—of a submergence of 600 feet—relation of coast line to commerce and life of the people.

3. *Size.*

- a. As compared with other continents, estimated from globe.
- b. Greatest length, width and other distances, measured from map by use of scale.
- c. Time necessary to journey in various directions across continent, traveling at varying rates. Give this as problems to be solved.
- d. How many times the size of the United States? Of Michigan?
Given as problems from data supplied by teacher.

4. *Surface (data to be secured largely from map.)*

- a. Primary or main highland.
 - (1) Its name, location, continent and trend.
 - (2) Average length, width, height and slopes.
 - (3) Mountains traversing highland, their names, trend, height, chief passes through the mountains and general characteristics.
- b. Secondary highland.
Same as for primary.
- c. Lowlands.
Names, location in continent and in relation to highlands and mountains, extent, slopes and any distinguishing characteristic features.

d. Drainage.

Have pupils trace divides—note slopes from these divides down to sea level, long slopes, short slopes, length of streams in relation to slopes, chief rivers, age of valley, mouths of streams, deltas at mouths or estuaries due to submergence.

e. Relation of surface to life of people.

Relation to occupations. Do mountains act as barriers isolating the people or is communication easy? Relation of mountains and other physical barriers to political boundaries, size of states, etc.

5. *Climate.*

a. Temperature.

- (1) As determined by angle of sun's rays or latitude.
- (2) As modified by elevation.
- (3) As influenced by winds from ocean.
- (4) As shown on isothermal map.

b. Prevailing winds, and any modifications due to monsoon influence, as in Asia and India, for example.

c. Rainfall.

- (1) Regions of heavy and moderate rainfall. Why?
- (2) Arid regions. Why?
- (3) Seasonal occurrence of rainfall? When? Why?

6. *Vegetation.*

a. Factors influencing temperature, rainfall, soil.

b. Characteristics of vegetation in hot moist regions, e. g., the tropical rainy forest.

c. Changes in the above with decrease of rainfall.

d. Characteristics of vegetation in hot arid regions.

e. Effect of cold temperatures upon vegetation in humid and in arid regions.

f. Distribution and characteristics of vegetation of the continent as controlled by the above condition. The forest regions, chief trees, the savannas and prairies, deserts.

7. *Occupations.*

a. Occupations in forest regions, lumbering, gathering of forest products.

b. Grazing and herding regions.

c. Agriculture, with and without irrigation. Location of the industry, its limiting conditions, chief products, etc. Note how climate influences and controls this occupation.

d. Mining and mineral resources.

Why are mountains more commonly mining regions than plains?

Note well the location of the coal and iron mining regions, for when both of these are found in a region manufacturing is usually an important industry.

e. Manufacturing.

(1) Conditions determining location of manufacturing regions.

(a) Power—coal, water, electricity.

(b) Raw material for manufacturing.

(c) Food supply.

(d) Commercial facilities for bringing raw material, power and food supply together or disposing of manufactured products.

(e) Labor and capital.

(2) Location of manufacturing centers or regions and chief products of each.

f. Commerce.

Commerce grows out of needs and wants of the people which in turn largely grow out of occupations.

- (1) Needs and wants of manufacturing section and what they have to supply.
- (2) Needs and wants of various agricultural sections and what they have to supply.
- (3) Similarly for mining regions, grazing sections, etc.
- (4) Movement of goods and products to satisfy the above needs and wants.
- (5) Means of transportation—navigable rivers, canals and railroads.
- (6) Commerce with other continents and regions as an outgrowth of diverse needs and wants growing out of differences in occupations and natural resources.

8. *Location of cities.*

- a. Manufacturing type, like Pittsburg, and conditions favorable to growth of such cities.
- b. Commercial centers like New York and Liverpool, and conditions favorable to their growth.
- c. Governmental types of cities, like Washington and Lansing.
- d. Educational centers.
- e. Combination of two or more of above types like Chicago, which is commercial in origin and growth but because of meeting of commercial routes, nearness of coal, etc., is a great manufacturing center.

9. *Population.*

Distribution of—where dense, where sparse, as determined by occupations and food producing capacity of the various sections.

INTENSIVE STUDY OF A REGION

After a continent or a large country like the United States has been studied, as called for in the outline for continental study, and the pupils know in this way the general relations of the various geographic districts to each other and to the whole, they are then in a position to take up the intensive study of these various districts and individual countries.

It should be the aim of the teacher in these upper grammar grades to give the child a higher conception of what geography is than he has been able to obtain in the previous grades. It was the aim of those grades to give mental pictures of distant countries and regions and to lay a foundation of well-understood facts.

It is still the aim to broaden the pictures and increase the number of facts, but, in addition, to bring out and make clear those relations existing between the life of a given region and the physical environment of that life, to show, as far as possible

1. What the physical conditions of the region or country are and how they came to be.
2. How these physical conditions have influenced the life, industries and history of the people of that region.
3. To emphasize those peculiar things for which that country stands, industrially, commercially and socially.

Thus, for example, after the United States has been studied as a whole so that the child knows in a general way the more important features of its surface, climate, vegetation, after he knows where the mining, manufacturing, agricultural and grazing regions are located and how these regions largely supply each other's needs and wants through the domestic commerce of the country, then he can understandingly take up the intensive study of the New England states and have impressed upon him just what it is in this region and its people that has set it off, not in isolation, but in the character of its industries, institutions and history from the other sections of the country.

Let him see first of all those stony New England hilltops rising to approximately the same elevations and separated from each other by rather steep-sided narrow valleys and, mantling over all, that coarse stony soil which has even been the bane of successful agriculture. Make clear to him the rocky many-harbored coast of Maine, the long sandy front of Cape Cod, and the branching arms of Narragansett

Bay. Now give these facts perspective and fix them forever in his mind by teaching how they came to be. Let him know that for ages New England was worn by rainwash and streams until its surface had been reduced to almost a plain (a peneplain). Then came the uplift of this plain, the streams cutting the present valleys and forming the even topped hills. Then came that great ice sheet which covered the region, accumulating along its front a terminal moraine of which Long Island, Martha's Vineyard and Cape Cod are in part remnants. The old, probably rich, soil was swept away and in its place was substituted the present coarse, rocky, sandy mantle which banished all hopes of agricultural greatness from the region. This mantle of drift, when the ice had melted away, damned the old valleys forming basins where now we have the thousands of New England lakes, sent the streams coursing over new channels, tumbling here and there over precipices or rushing in rapids down steep slopes, thus giving to New England its water power which forms the basis for its manufacturing. Show also how, by the submergence of the lower portion of its river valleys, its many harbors were produced with all the beneficial effects they have had upon its industries and history.

Then let him see how, with the landing of the Pilgrims, the white inhabitants entered upon a century of long struggle with the rigors of its climate and the hard conditions imposed everywhere; how the purpose of that struggle was to make the region give a livelihood to its constantly increasing population, and how it was finally attained, not in a greater number of acres of wilderness conquered and tilled but in the evolution of one of the most diversified of industries. Many continued to struggle with the rocky soil. Others, influenced by the many favoring conditions, were tempted to enter the more profitable but more dangerous occupation of fishing. This led to commerce and both of these made a demand which created the shipbuilding industry. Manufacturing in the earliest day, typified by the spinning, weaving and the shoe making of the New England kitchen, was transferred to the factory, and today New England produces 56.2% of all cotton goods manufactured in this country and 58.6% of all the boots and shoes.

Individual attempts to gain a living in colonial time, under the stress and competition of those days, are represented today by great factories employing thousands of men and representing millions of invested capital.

When the pupils realize how physical conditions drove the people into a greatly diversified industry and how only by so doing could they live in the region, they are in a position to realize why the New England colonies resented England's attempt to tax those industries and their commerce out of existence and by that resentment brought on the Revolutionary War. In this way ought geography to correlate with history.

Let them understand, in considerable detail, these variously diversified but typical industries of New England as they are carried on today—the hard, dangerous life of the New England fisherman; the rush and roar of the New England factories and the remarkable manner in which certain industries have been localized in certain cities and sections; the quarrying industry of Massachusetts and Vermont, the paper pulp industry fed by the remaining forests of spruce; and the hard struggle which the New England farmer still carries on with the soil.

Somewhat after the manner indicated above should the teacher, in the study of every region, aim to bring out those vital and fundamental relations of life to its environment which constitute the essence of modern geography. This intensive study of regions and countries should be based upon and grow out of the text's treatment of those regions. It will be necessary for both pupils and teacher to supplement the text with as wide reading from other sources as possible.

It is suggested that a general review be given. The pupils are now older and can understand relations and causes better than in previous grades. It is suggested that this review emphasize the commercial side of geography but that it be regional in character and bring out the causal relations.

The regions of the world that contribute largely to the world's commerce are to be studied. In each show how climate, surface, drainage, soil, mineral resources, etc., combine to determine the distribution of population and occupations of the people of that region; and then how out of these different occupations arise the needs and wants that cause and determine the world's commerce. Try to fix firmly in the pupil's mind the great demands which each region makes upon the other regions of the world and its contribution to the needs and wants of those regions.

HISTORY

During the seventh grade the history of Michigan should be studied with its geography. If time for the recitation in both crowds the program, they may be alternated.

1615—Possibly visited by Champlain.

1634—Visited by Jean Nicolet at Mackinac.

1641—Visited by Jesuit missionaries.

1660 to 1668—Visited by various missionaries. Mission established at Sault Ste. Marie—three years later at St. Ignace.

1701—Fort Ponchartrain founded at Detroit by Cadillac—Detroit the capital of the French possessions.

1760—Became a British province—principal business, fur trade.

1763—Pontiac's conspiracy—Character of Pontiac. Plan of attack—story of the Ojibwa Indian girl. The attack—Bloody Run. Massacre of Michilimackinac.

1769—Death of Pontiac.

1787—Ordinance creating the Northwest Territory—the "Six Articles."

1796—British evacuation of military posts.

1805—Michigan made a territory—Gen. Wm. Hull governor.

1812—*Second War with England*—Michigan menaced on one side by Canada, on the other by Indians. July 16, Detroit surrendered, the only condition being that private property be protected. July 17, Mackinac surrendered.

1813—Gen. Cass appointed governor. His energy—made treaties with Indians, always just ones; divided the territory into counties (note how many of the counties bear the names of prominent men); surveyed and opened the lands for settlement (about 1818); visited personally the heart of the Indian country, traveling thousands of miles; published (1823) "Inquiries concerning the Indians." Perry's victory on Lake Erie.

1817—First permanent newspaper—"The Detroit Gazette," \$5 a year.

1831—Gov. Cass appointed Secretary of War.

(Cass was further honored by appointment in 1836 as Minister to France; in 1845 and 1849 was U. S. Senator from Michigan, and in 1844 and 1852 was democratic nominee for president.)

1832 to 1834—Detroit scourged by cholera—Gov. Porter a victim.

1835—*The Toledo War*.—Cause, territorial boundary dispute. Proclamation of Gov. Lucas of Ohio ordering troops to take possession of disputed strip; sending of Michigan troops by acting Gov. Mason—no bloodshed. Proposition by Congress to cede to Michigan the Upper Peninsula for the release of the disputed strip.

May—Adoption of a constitution and application for admission to the Union.

October—State officers elected, followed by the refusal of Congress to admit to the Union until the settlement of boundary dispute.

1836—December—Acceptance by the "Frost-bitten Convention" at Ann Arbor of the proposal of Congress mentioned above.

1837—January 26—Michigan admitted as the 26th state, thus doubling the original thirteen. Plans at once made for extensive internal improvements and a loan negotiated for \$5,000,000 (an enormous sum in those days) for improvement of rivers, construction of canals, and building of railroads—the beginning of the Michigan Southern and Michigan Central railways. Passage of general banking law—its provisions of safety to the public easily eluded, resulting in suspension of specie payment.

Provision that every sixteenth section in each organized township be set apart for school purposes. Rev. John D. Pierce, first Superintendent of Public Instruction, presented to the State legislature the plan

- for our educational system, modeled after the Prussian public school system.
- 1847—Capital changed from Detroit to Lansing.
- 1850—New constitution.
- 1852—Congressional land grant of 750,000 acres for construction of canal around St. Mary's Falls.
- 1853 to 1855—Construction of St. Mary's Falls canal—cost \$999,802.46. (7,000 feet long, least width 108 feet, depth of water 16 feet.)
- 1860 to 1865—*Michigan in the Civil War*.—Austin Blair, the "War Governor," Zachariah Chandler, the "War Senator of Michigan"—93,700 Michigan soldiers of whom over one-sixth perished in defense of their country.
- 1873—Corner stone of the new capitol laid—cost of building \$1,500,000.
- 1876 to 1881—St. Mary's Falls canal enlarged and new lock built—cost \$1,500,000.
- 1892 to 1894—Second great lock built—cost \$5,000,000. Over 16¼ million tons passed through this lock during 1896, sufficient tonnage to load a freight train over 5,000 miles long, or reaching nearly from Chicago to San Francisco and back, exceeding the tonnage of New York harbor.
- 1897—President Angell of Ann Arbor appointed United States minister to Turkey.
- 1909—New constitution went into effect January 1.

RESOURCES

1. Agricultural.
 - a. Location agricultural regions.
 - b. Rank of Michigan as an agricultural state.
 - c. Rank in production, single products.
 - d. Fruit regions.
 - e. Sugar and the sugar beet.
 - f. Chickory and its manufacture.
2. Forests.
 - a. Rank of Michigan in production of lumber.
 - b. Location of pine belt—hardwood belt.
 - c. Lumbering camps, cutting, hauling, mills.
 - d. Future of the industry and of lumber towns.
 - e. Uses of pine, of hardwood.
3. Mines.
 - a. Rank of Michigan in production of different minerals.
 - b. Location of mineral regions.
 - c. Principal towns and cities in mining regions.
 - d. Mining machinery and equipment.
 - e. Shipping points, docks, vessels.
 - f. Coal, kind, where obtained.
 - g. Smelting works, location.
 - h. Grindstone, building stone.
4. Salt.
 - a. Rank of Michigan in production.
 - b. Location of salt regions, leading towns.
 - c. Processes of manufacture, cost per barrel, why so cheap.
5. Fisheries.
 - a. Rank of the state.
 - b. Kinds of fish, inland, lake.
 - c. How caught, how marketed.
6. Manufactures
 - a. Rank and comparative quantity and value of goods.
 - b. Leading manufacturing cities.
 - c. Furniture, stoves, cars, pianos, organs, matches, soap, wagons, carriages, silk, threshing machines, farm implements, pins, automobiles.

CITIES

1. Name six largest in order of size.
2. Locate and tell why important—Detroit, Grand Rapids, Saginaw, Lansing, Jackson, Bay City, Kalamazoo, Ann Arbor, Marquette, Battle Creek, Muskegon, Calhmet, Sault Ste. Marie, Flint.

COMMERCE

1. Waters passed through, Duluth to Buffalo; Chicago to Buffalo.
2. Canals and artificial waterways.
3. Lighthouses, breakwaters, locks, harbors.
4. Location of leading lake ports.
5. Principal products shipped each way.
6. Large freight boats, passenger boats, "Northwest."
7. Amount and value of lake commerce.

ANIMALS

1. List of native animals, living, extinct.
2. Fish and game laws. Necessity.
3. List of useful wild animals.

HISTORICAL

1. First settlement, when? Where? By whom?
2. Names of a few early explorers.
3. Early settlers, where from? Scenes from life.
4. First steamboat. First railroad. First newspaper.
5. Origin of the following and other names: Michigan, Calhoun, Albion, Jackson, Shiawassee, Clinton, Marquette, Ingham, Cass, Charlevoix, Hillsdale, Detroit, Grand Rapids, Ypsilanti, Bay City, Lansing, Gratiot.

BIOGRAPHICAL

1. Marquette, LaSalle, Cadillac, Pontiac.
2. Houghton, Woodward, Pierce, Schoolcraft.
3. Cass, Mason, Blair, Chandler.
4. Alger, Luce, Dickinson, Palmer.
5. Carlton, Edison, Rose Hartwick Thorp.

INSTITUTIONS

1. Educational.
2. Charitable.
3. Reformatory.
4. Penal.

GOVERNMENT

1. Seat of government—location.
2. Constitution—nature of; date of adoption.
3. Departments—functions of each.
4. State officers—general duties.
5. County officers—general duties.
6. County seat. Court house. Jail.
7. City officers—council—fire department.
8. School officers.

MUSIC

GENERAL NOTES

It is understood that a regular systematic course of instruction such as is given in the city schools cannot be carried on in the rural schools, hence the following outline. This is prepared with a view of meeting the needs of the schools where there is no regular supervision, and where only a few minutes a day can be given to the music.

The teacher should have several song books from which to select the "rote" and other songs.

If possible, let the children from the fourth grade up have a uniform song book.

This outline can be carried out as given if fifteen minutes per day be allowed. The work is prepared on the supposition that the teacher has some musical knowledge and can sing, but it can be carried out even if such is not the case, if the teacher will prepare herself in advance on the work as given to the school.

Suggested method of teaching a rote song:

1. Teacher sings the entire song a number of times.
2. Teacher sings first phrase several times, class listening with eyes on teacher.
3. Class repeats phrase.

If class cannot properly repeat, it is for one of two reasons: either the phrase has not been sung often enough or else the phrase is too long.

4. Teacher sings second phrase several times.
5. Class repeats phrase.
6. Teacher joins first two phrases.
7. Class repeats.
8. Proceed in above manner until song is learned.

9. Absolute accuracy not only of intonation but of attack must be insisted upon. Any wavering or sliding of the voice from tone to tone must be discountenanced. Pure, accurate intonation is essential. When the song has been learned, let individuals sing it; different groups of children may then sing, making repetitions follow each other as speedily as possible.

OUTLINE

First Month

First Week—Sing familiar songs giving special attention to America, Star Spangled Banner, and Nearer My God to Thee.

Second Week—Continue review of familiar songs, giving special attention to Suanee River, Home Sweet Home, and Italian Hymn.

Third Week—Teach a new song of four phrases by rote, using the words and "loo." (Ear training.) Teach the syllables, do, ra, me, fa, sol, la, te, do, by writing same on board vertically and requiring class to read them (speaking voice); later apply to the tune of the major scale singing descending and ascending, collectively and individually. Sing familiar songs, including Battle Hymn of the Republic.

Fourth Week—Teach a new song of four phrases by rote, using the words and "loo." Continue drill on scale with the syllables and "loo," individually and collectively. Teach the staff and treble clef; explain, using blackboard for demonstration. Have class make staves and clefs on practice paper. Review the new song of last week and familiar songs, including Sweet and Low.

Second Month

First Week—Teach a new song of four phrases by rote, using the words and "loo"; later in the week add the regular syllables as a new stanza to this and the other new songs learned thus far. Teach the permanent pitch names of the lines and spaces of the staff, starting with the second added space below, and continuing to the second added space above. The pitch names used are the first seven letters of the alphabet, A, B, C, D, E, F, G. Continue the singing of familiar songs, including Columbia, the Gem of the Ocean.

Second Week—Teach a new song of four or six phrases by rote using words, syllables, and “loo.” Review the drill on the major scale, clef, staff and pitch names. Explain the bar and double bar. Sing familiar songs, including Old Black Joe.

Third Week—Teach a new song of four or six phrases by rote, using words, syllables, and “loo.” Continue the drill on all the new things taught thus far, especially the singing of the scale and pitch names. Explain “accent” and “measure.” Sing familiar songs, including Flow Gently, Sweet Afton.

Fourth Week—Teach a rote song. Drill on staff, clef, pitch names, major scale, bars, (single and double), and measures. Teach the whole, half and quarter notes, having children practice making them. Sing familiar songs, including The Watch on the Rhine.

Third Month

First Week—Review the rote song taught the first month, third week. Place the same on the board just as it appears on the printed page. (This is the first week in *eye training*.) Have the children sing the words while the teacher points to the notes, then sing the syllables by the same process, mark off the phrases, count the measures, count the different kinds of notes. Continue major scale singing and drill on pitch names, teach eighth and sixteenth notes. Sing familiar songs, including Lead Kindly Light.

Second Week—Review the rote song taught the first month, fourth week. Place it on the board and have the children sing the words, the teacher pointing to the notes as sung, sing syllables, mark off phrases, count measures, count different kinds of notes. Continue major scale drill and pitch names. Teach whole, half, and quarter rests. Have children write them. Continue familiar songs, including Nancy Lee or a Thanksgiving song.

Third Week—Review the rote song taught the second month, first week. Place it on the board and have the children sing the words, the teacher pointing to the notes as sung. Sing syllables, mark off phrases, count the measures, count the different kinds of notes. Continue major scale drill and pitch names. Teach eighth and sixteenth rests. Have the children write them. Continue familiar songs, including songs of Thanksgiving.

Fourth Week—Review the rote song taught the second month, second week. Place on the board. The teacher points to the notes while the children sing the words and then the syllables. Mark off the phrases, count the measures, and count the different kinds of notes. Continue major scale drill and pitch names. Review all kinds of notes and rests learned thus far. Explain an interval and show the children how they have been singing intervals in all their songs. Sing familiar songs, including Auld Lang Syne.

Fourth Month

First Week—Review the rote song taught the second month, third week, placing the same on the board. Have the children sing the words and then the syllables as the teacher points to the notes. Mark off the phrases, count the measures, count the different kinds of notes. Review pitch names, different kinds of notes, and rests. Drill on intervals, as follows: explain that the major scale is the material out of which songs are made but that, in the song, the tones are used in many different arrangements, while in the scale the order is always the same. Drill on intervals by *car only*, that is, call for do, me, sol, high do, sol, me, sol, low or high do, etc., individually and collectively. (This is called oral interval drill.) Sing familiar songs including Annie Laurie.

Second Week—Review the rote song taught the second month, fourth week. Place it on the board and have the children sing, using words and syllables while the teacher points to the notes. Mark off phrases, count measures, and the different kinds of notes. Review pitch names, and the different kinds of notes. Continue the singing of the scale and oral interval drill. Sing familiar songs, including the round, Row, Row Your Boat, or a Christmas song.

Third Week—Teach a rote song, of four, six or eight measures, any key, using words, syllables, and “loo.” Continue the major scale drill and oral interval drill using individually and collectively. Teach the sharp, flat and natural signs, explaining their use. Sing familiar songs, especially those that have the Christmas spirit, including Love's Old Sweet Song.

Fourth Week—Review the rote song taught last week; place it on the board and have the children sing the words and note the positions of the notes on

the staff. Sing the syllables, count phrases, measures, and different kinds of notes. Note the signature for the first time. Review pitch names, continue major scale drill and oral interval drill individually and collectively. Explain "key" and that the major scale may start anywhere on the staff but when it does not start on C there must be sharps or flats in the signature to tell where it does start. Sing familiar songs, especially those having the Christmas spirit in them.

Fifth Month

First Week—Since this is the first week after vacation, a thorough review is necessary. The most important points being pitch names, note and rest values, scale and oral interval drill. Explain that the major scale has five whole and two half steps and that the half steps always come between 3-4 and 7-8. Show this by placing a scale ladder on the board. (Do not sing from it, use only for a visualization of the distance between the tones.) Drill from the staff on the major scale, also place little studies of two phrases in the key of C using notes of equal value with easy skips. This is the first real sight singing. Sing familiar songs, including *Dixie*.

Second Week—Introduce sight singing from the staff. Place on the board short song studies of two, four or more phrases in key of C and read by syllables, working out each phrase separately. Note the correct time value of notes and the proper pitch of tones, later teach the words and use "loo" for voice drill. Review the major scale and interval drill, explain time and try to show pupils how necessary *time* and *tune* are in every song and study. Explain the time signature, giving particular attention to 2-4 time. Sing familiar songs, including *Blow, Ye Winds, Heigh-Ho*.

Third Week—Teach the key of G. Show how it happens that F sharp is used as the key signature, place the scale ladder on the board and bring out the fact that there must be a half step between 3-4 and 7-8 when "do" starts on G as well as when it starts on C. Place a short song or study of two, four, or more phrases on the board; read by syllables each phrase, collectively and individually. Sing familiar songs, including *Drink to Me Only With Thine Eyes*.

Fourth Week—Place a song or study on the board in the key of G in 2-4 time. Read by syllables, dividing it into phrases. (Note number of phrases, measures, etc.) Continue singing the major scale in the key of G, and place short studies with different intervals in the same key on board and drill. Continue drill on time signatures. Explain 2/8 and 2/2. Sing familiar songs, including *My Old Kentucky Home*.

Sixth Month

First Week—Teach the key of D. Explain why the two sharps are used as a signature; use the scale ladder for demonstration. Place a short song or study of four, six or eight phrases on the board; read it by phrases, using the syllables. Note the tone lengths as represented by the different kinds of notes, accent the note after each bar. Continue the practice of the major scale in the key of D, also interval drill using the blackboard. Continue singing familiar songs, including *The Minstrel Boy*.

Second Week—Place a song or study on the board in the key of D in 2-4 or 2-8 time. Read by syllables, a phrase at a time. After having read it through for the tones, have the children sing it in strict time. Practice the scale and intervals in the same key, review pitch names formally introduce three part measure as represented by 3-4, 3-8, and 3-2 time,—one strong and two weak pulses. Show the different kinds of notes can be "beat" notes. Continue singing familiar songs, including *Abide With Me*.

Third Week—Teach the key of A. Explain why three sharps are used as a signature; use the scale ladder for demonstration, or any other device that the teacher may see fit to use which will help to illustrate the subject. Place a short song of four phrases on the board in the key of A; read by syllables a phrase at a time. Continue the drill on scale and intervals in the key of A and time signatures. Continue familiar songs, including *Believe Me, If All Those Endearing Young Charms*.

Fourth Week—Place on the board a song or study of four phrases in the key of A 3-4 time. Read by syllables, a phrase at a time, the first two times for tones only, the third time in strict time, giving notes the correct lengths. Practice major scale and interval work in the key of A, placing examples on the board for the interval drill. Review two and three part measure. Teach 6-8

time, comparing it with 2-4 time, using triplets. Continue familiar songs, including Ben Bolt.

Seventh Month

First Week—Teach the key of E, showing reasons for using four sharps as a signature. Place a song or study in the key of E on the board; read by syllables, a phrase at a time, the children singing individually and collectively. Practice the major scale and intervals in this key. Continue drill on 6-8, 3-4, and 2-1 time. Add 4-4 time and show that it has two strong counts. Continue familiar songs, including Santa Lucia.

Second Week—Place a song on the board in the key of E and 6-8 time. Have the pupils look at it and try to think how it sounds, silently reading by syllables. Then sing it individually and collectively. Practice the major scale in this key as well as the intervals. Review the keys of C and G, having the children write them, using quarter notes. Continue familiar songs, including Work for the Night is Coming.

Third Week—Teach the key of F. Explain why one flat is necessary in the signature. Practice singing the scale and intervals in key of F. Place on the board a song or study of four phrases in 4-4 time. Have the children sing by syllables individually and collectively. Practice writing the scales in the keys D and A, using half notes. Continue singing familiar songs, including Sky Boat Song.

Fourth Week—Place a song or study on the board in the key of F, in 4-4 time. Read by syllables, individually and collectively. Practice singing the scale and intervals in this key. Review the key of E, having the children write the scale in eighth notes. Continue singing familiar songs, including The Old Oaken Bucket.

Eighth Month

First Week—Teach the key of B flat, showing why two flats appear upon the signature. Place a song or study in this key on the board, reading by syllables; review the key of F and have the children write the scale, using whole notes. Continue familiar songs, including The Battle Cry of Freedom.

Second Week—Place a song on the board in the key of B flat, 6-8 or 4-4 time. Read by syllables, individually and collectively. Practice the major scale and intervals in this key. Teach the function of a tie and a slur. Demonstrate on the blackboard. Continue familiar songs, adding The Swing.

Third Week—Teach the key of E flat, showing necessity of using the three flats as a signature. Place a song or study on the board in this key, reading by syllables. Practice the major scale and intervals. Review time signatures and note values, explaining the effect of a dot after any note or rest. Sing familiar songs, adding The Cradle Hymn.

Fourth Week—Place a song or study on the board in the key of E flat, 4-4 time. After the pupils have had a few minutes to think it out, let them read it by syllables in time and tune. Review the key signatures, sing the major scale and intervals in the key of E flat. Explain the hold or pause mark and staccato marks. Sing familiar songs, adding a new song, The Shell.

Ninth Month

First Week—Teach the key of A flat and explain the signature of four flats. Drill on scale and intervals in this key. Place a song or study on the board in the key of A flat, 6-8 time. Read by syllables, individually and collectively. Explain the abbreviated signs: p, pp, m, mf, f, ff, cres., dim., rit. Review the scale and intervals in the key of A flat. Sing familiar songs including Blue Bells of Scotland.

Second Week—Place on the board an exercise or song of four phrases in the key of A flat, 4-4 time. Read by syllables individually and collectively. Continue the practice of major scale and intervals in this key. Review the keys of B flat and E flat. Continue singing of familiar songs.

Third Week—Review staff, clef, pitch names, bars, measures, notes, rests, tie and slur. Have the children write the same on paper. Also have them invent a little tune to a familiar four-line poem in any key or tune. Sing familiar songs.

Fourth Week—Review the nine common key signatures. Write the scales in three of them, also review the time signatures and any other technical points that were not touched upon last week. Sing familiar songs.

HYGIENE AND PHYSIOLOGY

PURPOSE

The sole purpose of the teaching of hygiene and physiology in the grades is to secure health habits in the children themselves. 670,000 people die in the United States every year whose lives might have been saved by reasonable precautions which have already been pointed out by medical experts.

ACQUISITION OF HEALTH HABITS

Childhood is the time to learn how to make and keep the human machine most efficient. Schools are the natural agency for securing health habits because children believe what the teacher says. But the emphasis should always be placed upon practice by the children, rather than upon knowledge and glibness in reciting the facts as to what should be done. Knowledge without practice is entirely useless.

Instruction in these habits should not, in the lower grades, be based upon physiology; but upon authority. In the intermediate grades, when it becomes advisable to give reasons, they should be social and not physiological. For example: in insisting upon mud being cleaned from shoes before entering the schoolhouse it should be brought out that it is not fair to others to bring mud which will become dust into the room because it affects the lungs of others, especially the weaker children in school. No explanation of the exact physiological effect upon the pupil himself should be made, where the social motive can be urged. Such instruction may be given by stories, informal talks, or direct statement of facts with the reason for the health practices required. In the seventh grade, physiology, hygiene and first aid are outlined in the form of a regular daily course. In the eighth grade these may be reviewed and a little additional work in sanitation especially farm sanitation may be given if time permits. The Public Health Bulletins issued by the State Board of Health will furnish the best basis for this.

HYGIENE OF THE SCHOOLROOM

In addition to giving this health instruction and attempting to get children to adopt health practices, it is the duty of every teacher to see that the environment of the schoolroom is fitted in every respect for the tender tissues of the children. The teacher must see that the floor gets scrubbed once a month, that the ventilation is provided (window boards, unless patented system of heating and ventilation is provided), that the lighting is sufficient and rightly placed, etc. The Department of Public Instruction has just published a bulletin on school hygiene with full instructions. Follow these instructions carefully.

Health instruction and sanitation of the schoolroom are more important to young children than the three Rs.

FIRST AID

This outline in first aid is designed to secure two ends.

1. Use by the teacher herself in case of injury to pupils.
2. Instruction of pupils.

To accomplish the first of these purposes and in her demonstrations before her pupils, the teacher is expected to use the simple and inexpensive materials suggested below and furnished by the district. In the practice of pupils the bandages may be made by the teacher and pupils from material furnished by them. An old bed sheet makes excellent bandages.

Interest in first aid may be aroused by stories, one or two of which are given in the outline. However, the only effective method for the pupil to acquire practical knowledge of first aid is through:

- (a) Actual demonstration by the teacher herself of first aid in each of the

accidents; or by one of the mature students after practice and under direction of the teacher.

(b) Subsequent practice by all the pupils, they being paired off and practicing upon each other. Both boys and girls are wonderfully interested in such practice. Let the older pupils later apply first aid under the supervision of the teacher in cases of minor injuries to younger children. Such practical use will vitalize all the hygiene work.

The following material should be purchased by every district and kept in a place beyond the reach of curious children:

- One small bottle of hydrogen peroxide (disinfectant).
- Three aseptic roller bandages—two-inch (permanent bandage).
- One triangular bandage (sling and temporary bandage).
- One small package of adhesive tape (for fastening bandages, etc.).
- One pair of scissors.
- One tumbler or jelly glass.
- One porcelain-lined bowl or basin (eight or nine inch).
- The porcelain bowl is to serve:

1. As a container for all other first aid materials.
2. For bathing wounds, etc.

It is believed that the small child will become interested more readily if the common things which he should know are put in story form. The two stories which follow are merely suggestive. The essential facts regarding other emergencies follow. In teaching the older pupils, however, the important factors are the demonstration by the teacher and the practice by the pupils as stated above.

BREAKING THROUGH THE ICE

Drowning

It was Saturday afternoon and the boys were in a hurry.

"Come, John," said Teddy, "and bring my skates. They hang there in the kitchen. Harold Brown and Mary just went past and we must hurry or we won't have time for any fun."

In a moment John came with his and Teddy's skates hung about his shoulders and the two boys started for the pond for an afternoon of sport. There had been some snow early in the winter but this had melted and afterwards the ice had frozen in one smooth glaring sheet.

The boys were not long in reaching the pond where Mary and Harold were already skimming over the smooth surface, and in a moment they had fastened on their skates and were having great fun.

There was only one place where the young people needed to be careful and that was where the little creek, Bear Creek they called it, flowed into the pond. There the ice was thin and unsafe and all had been cautioned again and again not to skate near this piece of thin ice. Jad Taylor and his sister Nettie came after a time and the six boys and girls were having a merry time. All at once there was a loud splash, and Teddy Green's head was seen bobbing out of the water. He had ventured too near Bear Creek and had skated on the thin ice. The girls screamed—as girls are apt to do—and the boys could not think for a second of a thing that would help poor Ted; but Teddy was one of the favorites and they had to do something. John looked around for a board but there was none in sight. However, there was Mr. Taylor's rail fence. The boys did not stop to wonder whether Mr. Taylor would care or not, but John quickly took a rail and going as near the hole as he dared, slid it carefully out on the thin ice to where Ted was struggling in the cold water. By this time Ted was too cold to grasp the rail, so John, keeping hold of Jad Taylor's hand behind, carefully and slowly crawled near enough to grasp Ted's hand and draw him up on the rail.

But Ted had grown too weak and tired. He sank just as John's hand reached out to grab him and when he rose to the surface he was limp and unconscious. John made an extra effort and leaning out as far as he dared caught Ted's coat. Then with the unfortunate Ted in one hand and grasping hold of the frightened Jad with the other he crawled slowly and carefully back to the shore.

Meanwhile some large boys had come running to the scene. They hastily carried Ted into a nearby warm house. They then turned him face downward

on the floor and seizing him at the waist lifted him up and down several times to expel the water from the lungs and stomach. Then he was turned on his back. One folded his coat and put it under Ted's shoulders, so that his head was lowered and then standing astride of Ted's hips, he drew Ted's tongue forward and held it by grasping its slippery surface with his handkerchief. Another standing just above Ted's head took hold of both his arms and raised them above his head, stretching them as far as possible. Then he drew them down again. He did this several times, but still Ted's eyes did not open. He tickled Ted's nose. Still no response. Again he drew the arms slowly up and down. It seemed ages to John, but it was really only a half-hour that he had been working and John knew that sometimes one has to work over a drowned person for an hour or two before there is any sign of life. Finally Ted's eyes opened and the scared boys knew that he would live. Mother Jones gave him a big bowl of ginger tea to make him sweat and put him to bed between warm blankets so that he would not take cold and the next morning Ted was as well as ever.

Why was the ice thin where Bear Creek ran into the pond?

Did you ever see a boy break through the ice?

What did you do?

What would you do now?

Why did the boys have to be careful in sliding out the rail?

Why did John keep hold of Jad Taylor's hand?

What would you have done if there had been no rail or board?

Explain that both John and Jad might have lain flat on the ice and Jad could have kept hold of John's arm or coal and thus a human board might have been formed which would have had the same effect, but which would have been a little more dangerous.

Here two boys previously instructed by the teacher, and after practicing in private, should go through all the motions of resuscitation, acting out the whole scene before the school as realistically and dramatically as possible. Get the spirit of life saving.

DEMONSTRATION AND PRACTICE

First—Immediately loosen the clothing about the neck and chest.

Second—Lay the body, with the head hanging down and with its weight on the stomach across any convenient object, such as a keg, box, boat, timber or your knee. Open the mouth quickly, drawing the tongue forward with handkerchief or cloth to let the water escape. Roll the body gently from side to side and then back on the stomach. Do this several times to force the water from the stomach and throat. There is little water in the lungs.

Third—Lay the body on the back, make a roll of a coat or any garment, place it under the shoulders of the patient, allowing the head to fall back. One operator kneeling astride the hips of the patient should grasp the tongue with his fingers covered by a handkerchief to prevent slipping. The other operator should then kneel at the head of the patient. Grasp the arms at the middle of the forearms and leaving the elbows bent fold them across the stomach, and raise them over the head to a perpendicular position, drawing them backward, straight, and hard, then forward overhead to the sides again, pressing the arms on the lower part of the ribs and side, always leaving the elbows bent so as to produce a bellows movement upon the lungs. Do this twelve or fifteen times a minute. If convenient, apply smelling salts, camphor or ammonia to the nostrils to excite breathing. Remove the clothing, dry the body and rub the limbs briskly upward.

This demonstration should be followed by the questions below, which should be asked the whole school. Later the boys of the seventh and eighth grades should each in turn go through these motions.

Why was the clothing loosened about the neck and chest?

Why was the body laid across the knee or other support and resting on the stomach?

Why was it rolled from side to side?

Why was the tongue grasped with the handkerchief?

Why was the tongue pulled forward?

What does the sharp pull on the upper arms over the head do to the ribs?

What does the pressing down hard upon the lower ribs with the forearms of the patient do to these lower ribs?

What does rubbing upward do?

[The face down method of artificial respiration is more effective than the above method, but more difficult. For full instruction in this method, see bulletin of Michigan Board of Health.]

FROZEN AND CHILLED FINGERS

Less than two weeks after the time Ted received his cold plunge, the snow came in great drifts which piled high above the fences and it turned bitter cold. One night shortly after this John and Ted started home from school in what proved to be a terrible blizzard. The two boys tried to find the road home but in vain. The snow seemed to be in great hills in front of them. They had just decided that they were lost and would burrow out a hole in the snow and wait for someone to find them when they saw a light ahead of them. There were two very happy boys that reached Farmer Jones' house a few minutes later. Ted started for the stove to get warm, but Aunt Mary, the good farmer's wife, looked at his little hands. They were very red, almost blue, with cold and in fact were quite chilled.

"You poor child," she said, "Don't go up to the fire just yet, or you may be sorry."

Aunt Mary rushed out of the door and in a minute returned with a pan of snow. Taking a great handful of it, she rubbed it on Ted's ears. Then she placed his hands in the pan and made him rub them until they ached. At first it did not feel very good, but after a time his ears and hands fairly burned with warmth.

"Don't put anything warm on chilled hands or feet or frozen ears. Instead rub snow and ice on them. It hurts, but it is good for them" said Aunt Mary as she sent the boys home with farmer Jones.

OPEN WOUNDS (CUTS, ABRASIONS, ETC.)

1. The hands of the teacher should be washed thoroughly with soap and water in the special bowl provided. Put a little peroxide in the glass and add the same amount of water. Tear off a small piece of the aseptic roller bandage, dip in the disinfectant, and wash the wound in all directions away from the injury. If the part is particularly dirty also wash thoroughly with soap and water in the porcelain lined basin, but keep all dirt and dirty water out of the wound.

2. In case of a cut, draw the parts of the wound apart and drip or pour disinfectant inside.

3. After thoroughly disinfecting, cover wound with roller bandage. Sometimes it is not convenient to wind the part with the roller bandage. In such cases several inches of this bandage may be cut off and folded into several thicknesses. The pad should then be fastened in place over the wound by means of the adhesive tape. The important thing in any bandaging is to keep out the dirt.

In class practice represent cuts by ink mark (red ink, if possible) and make each member of the class put on a bandage that will stay and is sightly.

SPRAINS

In all cases of sprains the results may be serious. In sprains there is a twisting and tearing of the ligaments, in consequence of which there is a rupture of the small bloodvessels and internal bleeding. This bleeding is manifested by swelling, and later by discoloration. These may be checked and relieved by the application of cold or heat and by pressure.

If the sprain is in the wrist, ankle or foot, immerse the part in a bucket of very hot water, and add more still hotter water from time to time, as hot as can be borne, for fifteen or twenty minutes. Keep *hot*. After this a firm bandage should be applied, and the part elevated.

If the sprain is in the wrist, apply the triangular bandage in the form of a sling. If the wrist sprain is at all severe, a piece of shingle or other splint should be wrapped or padded and bound to the forearm before the application of the sling.

Instead of hot water, cold applications may be used. The part may be put

under a running tap of very cold water, or cloths dipped in very cold water may be used.

If the sprain is quite serious, call a doctor after applying first aid.

BROKEN BONES

Send someone for the doctor. If it is necessary to move the patient to any distance, make a pad over a splint, i. e., board, stick, or umbrella. Lay the broken limb or part upon the cushioned splint, and apply bandages or handkerchiefs to keep the parts quiet and in such a way as to prevent the fragments of bone moving upon one another.

DISLOCATIONS

The part below the dislocated joint will not dangle as in a break, but the joint itself will be very stiff, and the great tension of nerves and muscles will result in very great pain. Do not touch the injured part. Call a doctor at once. Chloroform, relaxing the muscles, will allow the expert to set the joint easily as well as painlessly.

BRUISES

Wring a cloth from very cold water. Bathe the parts to check the internal bleeding and prevent discoloration. Later the application of a piece of raw beef will be beneficial.

A SLIGHT BURN

Put the burned hand or finger in cool water to soothe the smarting. Apply a little common baking soda and afterwards vaseline. If the burn be severe it would be better to put the hand in hot water to draw the heat out, but when only slight there is no need.

In this emergency, the demonstration alone is sufficient without practice by all the class. Have some one of the older pupils bring the baking soda and vaseline and give the demonstration.

POISON BY POISON IVY

The ivy which is poisonous is that which has three leaves and is not the five-leaved. This is found clinging to fences and the stumps of trees in the woods during the spring and summer.

Bathing in buttermilk reduces the fever.

Sweet oil applied heals and soothes.

A mild solution of sugar of lead kills the poison and prevents spreading.

FAINTING

There is no particular hurry and little danger. Lay the patient out flat with the head lower than the feet; loosen neck bands, corsets, etc. If a bench is handy elevate one end upon another bench or box and place the patient head down upon the inclined bench. This is the essential treatment. However, the limbs may be rubbed toward the body. The face should be lightly sprinkled with water. Smelling salts may be applied, if handy, but are not necessary. After recovery the patient should lie down for some time.

NOSE BLEED

Wet a piece of paper in cold water and put it on the back of the neck. Give the child something to chew, either gum or a piece of paper. Another simple way is to put a piece of paper under the upper lip and then have the child draw the lips back, firmly pressing against the teeth.

CHOKING

First try slapping the back vigorously. If that is not effectual lay the child on the floor face downward and continue slapping the back, being sure that the

head is a little lower than the rest of the body. If the case is still obstinate take the child by the heels and hold head downward and let some one pound him on the back until the cause of the choking is removed.

SEVERING AN ARTERY

When an artery is severed it can be told by the color of the blood and the fact that it flows in spurts corresponding to the heart's action. The essential treatment is to stop the flow of blood from the heart to the wound. This may be done as follows: Have the patient lie down. Hold the arm or other cut limb up. Take a handkerchief and tie a hard knot in it. Tie the handkerchief loosely around the limb between the cut and the heart, with the knot pressing on the artery. Put a stick under the handkerchief and twist tightly until there is little blood flowing. Call the doctor to tie the artery. In practice the exact location of the artery and the best place for the tourniquet should be found in some physiology textbook.

HYGIENE

EYESIGHT

After testing each pupil in the school privately with the eye chart supplied by the Department of Public Instruction test one or two of the best pupils over again in full view of the entire school.

Also, retest one or two of those having the lowest acuity of vision.

Then draw from the pupils reasons why some eyes are so poor and why nearly all have trouble with their eyes as they grow older. List on the board these reasons as fast as the pupils give them, and discuss each one. The list should contain at least the following causes of these differences and troubles:

1 Causes	2 Remedies
Heredity.	No remedy
Poor light, especially at dusk.	Shades in school well up. Lamp at dusk.
Facing the window or lamp.	Light over shoulder only. Left only, if writing.
Sun's rays directly on the book.	Move the book out of direct rays. Change seat, if necessary.
Holding book too close to eyes, especially by bending too far over the desk.	Hold book in hand about fifteen inches from eyes and keep back straight while writing.
Infecting the eye through towel or dirty fingers.	Avoid wiping where others have wiped. Keep the fingers out of the eyes.
Reading too long at one time.	Rest the eyes frequently.

After list number one has been made up by the class, the teacher should then make, with the aid of the class, a list to the right of list number one (as shown above), stating what may be done to prevent each of the above causes of poor eyesight from operating.

Some may be nearsighted, that is, can see only objects which are very near, and some are farsighted, that is, they have difficulty in reading without eyeglasses or headache. Spectacles should be worn when such is the case. They should be fitted by specialists and never by a traveling vender of glasses.

A particle of sand or other foreign substance between the eye and lid causes great pain. It seldom does any good to rub the eye. Instead, hold the lid away from the eyeball for a moment, and the tears will usually wash the particle away. If not, a pencil may be put over the upper lid and the lid turned back over the pencil. The teacher should not be afraid to turn the lid wrong side out. Have the pupil look down; grasp the eye lashes and press the pencil against

the middle of the upper lid and quickly turn the lid back. The particles may then be wiped out by means of a soft cloth or handkerchief.

How far from the eyes should we have work or reading?
 What has been said about having a good light?
 How should the light be placed when one is reading by lamplight?
 When are shades needed for the eyes?
 What about facing a window?
 What about looking at the sun and bright lights?
 What should be done when the eyes are tired?
 Where should the light be placed when one is writing?
 What is meant by nearsightedness? Farsightedness?
 Did you ever get sand or any other substance in your eye?
 How did you get it out?
 How might it have been removed?

BATHING

One of the surest ways in which to keep healthy is to keep the skin clean. To do this a bath at least once a week with warm water and soap is necessary, together with a good rubbing with a towel afterwards. If the bath is followed by a dash of cold water the weakening effects are overcome and one grows hardy and is less apt to take cold.

A cold bath is better than a warm one if a child can stand it.

The bath should be taken in a warm room.

A cold bath should be taken in the morning; the warm one at night. Why?

Do not bathe soon after eating. Why?

Rub the body well with a rough towel after a bath. Why?

Do not stand or sit in a draft after a warm bath for one is apt to take cold.

Washing the face, with soap when dirty, rinsing and drying with a soft towel is the only thing to do to the skin to keep a good complexion.

A healthy body, frequent bathing and plenty of exercise are all that are needed to keep the covering of the body as it should be.

How shall we keep the skin healthy?

How often should one take a bath?

How should the bath be taken?

Which is better, a cold bath or a warm one?

How should the room be for the bath?

When should a warm bath be taken? A cold bath?

What is said about a bath after eating?

How may one take cold after bathing?

How do some ladies try to make their complexions better?

Why is this not a good plan?

How should the face be cared for?

THE HAIR

Brush the hair each day to keep the oil distributed and to remove the dirt. Frequent washing of the scalp in soft water is ordinarily all that is needed to keep the head and hair in good condition.

CARE OF THE NAILS

Teach the children not to bite the nails. It makes them ragged and the ends of the fingers sore. Hangnails should be cut off close to the flesh. To avoid them gently push the skin back from the nail. (Illustrate.) Keep the skin pushed back from the nails, the nails cut and cleaned.

The nails of the toes may be injured by wearing tight shoes. They press the toes together and cause ingrowing nails.

MOUTH HYGIENE

Theory

What are a horse's teeth for?

"A horse is as old as his teeth." Why?

Why is it still more important that man's teeth should be kept "young" for as long as possible?

If you have bad teeth, you cannot chew your food properly as you grow older. Your breath is disagreeable to others. The putrid matter and gases from the cavities and the improperly masticated food makes digestion poorer. It is digested food only that gives a person his energy and makes him able to play and work vigorously. So a man is as old as his teeth.

Teeth decay because:

Food lodges between the teeth and decays in the month. How removed? Pick, brush.

A yellow deposit called tartar forms on the teeth. How removed? Brush.

The enamel is broken by cracking nuts with the teeth, etc.

How may the teeth be kept sound?

Teach the use of the tooth brush, illustrating the motions with a real brush. This should be rubbed up and down, as well as across, and should also be applied upon the inner as well as the outer surfaces. Brush the teeth twice a day at least, using a paste or powder one of these times, if possible.

If teeth are already decayed, a prompt visit to the dentist saves money and suffering. Rural people suffer from decayed teeth more than from any other physical defect. Why? (Many dentists and some free dental clinics for children in cities keep the teeth of city children in much better condition.) Rural children should visit the dentist at least once a year; city children, twice a year.

How does food between the teeth affect them?

What is tartar?

Why should one not break nuts with the teeth?

How should the teeth be brushed? How often?

Did you ever hear of a horse dentist? Why do some men take their horses to the dentist?

Why should the dentist be visited at least once a year by every person?

Practice

The teacher should urge each child to get a brush and should try to keep account of those who are using it regularly. Send to Colgate & Company, who will furnish free a sample tube of paste for each pupil. Furnish one of these to each pupil who agrees to use it. Have each pupil keep a written account of his daily use of the tooth brush, and at the end of each week get the report from each child. Take this record as a part of the hygiene work throughout the year, marking on practice instead of power to recite on mouth hygiene. Those who are perfect in practice for a term, should be given some special honor.

BREATHING

Everyone breathes all the time but we become so accustomed to it that it is not noticed. Hold one hand on the chest and the other near the nose. When the air comes out of the nose what happens to the chest? What happens when the air goes in? What happens to the waist?

What is meant by the "chest measure?" Is there any difference between this measure when the chest is full of air and when there is no air in the chest? Which boy or girl has the greatest chest expansion?

Measure the chest expansion of every member of the class, preferably with a tape. A piece of string with a knot in it may be used, however, and the portion of the string beyond the knot, which shows expansion, may be measured on the ruler.

Two inches is a fair expansion for an eighth grade boy. Make a separate list for the girls. Why is the expansion for girls less?

Reasons For A Good Chest Expansion

All the great athletes have fine chest expansion. Also, the great women singers. The boys and the girls who have the greatest chest expansion can run farther and can do more work and enjoy play better than the one with less expansion.

A person breathes to take into the body that part of pure air called oxygen and to send out impure air. This oxygen keeps the blood pure and helps to build up the body and to keep it well and strong and to furnish heat for the body. It is a great thing to be well and strong.

Why is the healthy boy happier than the sickly one?

Why can the well man do more work than the sick one?

Dr Knopf, the great tuberculosis expert of New York City, says: "I never knew of a case of tuberculosis in a pair of lungs that had been thoroughly ventilated at least once a day." It is a great thing to be free from disease.

Ways To Get A Good Chest Expansion

The best way to ventilate the lungs and to secure a fine chest expansion is to play vigorously out of doors every day, summer and winter. Work out of doors is also good. Play out of doors as much as you can, without getting the feet wet and without getting chilled while sweaty. It will make you healthier, and you will be worth more in any profession later.

Why do girls need to be out of doors as much as boys? Are boys stronger than girls? Why?

Dr. Sargent of Harvard University, the greatest authority on strength tests in America, says that the average girl up to thirteen years of age can outrun and outjump the average boy of the same age, provided she has been out of doors as much as he has and has played just the same games that he has. This is not true of boys and girls older than thirteen.

We can breathe through the mouth or through the nose, but one should always breathe through the nose because the hairs there catch the dust and do not allow it to pass through into the throat, and besides this warms the air. The mouth cannot do either of these things. Try breathing through the mouth once or twice on a cold morning. Notice how cold the throat becomes. Try breathing through the mouth in a hot room. See how the mouth becomes dry.

Breathe through the nose.

Take long deep breaths.

Breathe fresh air.

Sleep with your window open. Don't be afraid of night air or cold air.

Keep the mouth closed when running or walking fast.

Notice how warm it is in a crowded room. When so many people have to breathe the same air it becomes very impure and the room seems close.

How is fresh air kept in *our* schoolroom?

There should be window board ventilators unless there is a patented system of ventilation.

Which ones of the large boys will fit one window apiece so as to give us all the air we need?

How should one breathe?

In what condition should the mouth be when one is walking or running?

How should one get fresh air into a sleeping room?

Why does one need to breathe?

What is the chest measure?

How is the chest measure changed when the breath is in the body?

What is meant by chest expansion?

What is the difference between breathing through the nose and through the mouth?

Why does fresh air make one so healthy and prevent diseases like tuberculosis?

SOME THINGS WHICH HARM THE BODY

One of the most injurious things which can be taken into the body is alcohol. You know how delicious the juice of grapes is when it is just pressed from them. But when these juices have stood for a short time in the sun or where it is warm they begin to "work," as mother says, and begin to be harmful. The change is caused by the growth of a tiny plant in them called a yeast plant. This yeast plant is smaller than a speck of dust and can be seen only with the aid of a microscope. These little plants fill the air and are on the skins of fruit as well. When apples or grapes are crushed the yeast plants are washed into the juice and if the weather is warm they begin to grow. This plant causes alcohol to form in this juice. Of course, there is not much of the

alcohol, but it is much better to eat the fruit than to drink the juice unless you are sure that it is fresh. So you see alcohol has been formed by decay or rotting. Do you wonder that alcohol is a poison? And this is the same kind of alcohol which makes the drunkard. Only the drink which he uses is nearer pure alcohol while this is mixed with the flavor of the fruit.

The worst thing about it is that when one has taken one glass he has a desire for more. You know how a man who is drunk acts. He has been made so because his taste for alcohol would not be satisfied. It is for this reason if for no other that boys and girls must not take the first glass. It makes them want more.

But besides this it is harmful in other ways. What boy or girl does not want to grow? Alcohol keeps the body from growing and the mind as well. It would dull our minds so that we could not even add numbers or enjoy play so well or many of the pleasant things that there are in life.

Excessive use of alcohol affects the lining of the stomach so that food cannot be digested.

Athletes who are in training for football, basketball, baseball or for any of the great foot races are not allowed to drink alcohol or use tobacco. They would injure their speed and strength.

Beer contains alcohol and it does the same harm as the stronger drinks except that it takes more of it, and more time to do the harm. The stronger drinks which have alcohol in them are whiskey, brandy, and rum. Beware of cider and homemade wines that have "worked" or fermented.

Tobacco is also very harmful. It dulls the senses and one who uses it cannot hear, see, smell, taste or touch so well. It is made from the leaf of the tobacco plant and contains a deadly poison called nicotine. If this poison were swallowed it would cause death. In smoking little of this poison goes into the system but the smoke itself is very harmful. The man who chews, however, swallows some of the poison. Nicotine injected into a cat will kill her in spite of her "nine lives."

Why does a boy smoke or chew?

Some boys like to smoke or chew because it makes them feel more like men. Few city boys chew tobacco. It is considered too dirty and boorish. Thousands, however, smoke cigarettes or cigars or pipes and feel "manly" in so doing, but:

Why do most men who smoke wish they had never formed the habit?

How many men have you known to break the habit when once formed?

Are boys, or men either, warranted in believing that they can form the habit and then break it when they choose?

How much do four cigars a day at five cents each cost?

A man needs his money in his business.

Tobacco dulls the wits. A man needs all his wits to get to the top in life.

Excessive use of tobacco affects the health of thousands so seriously that they are commanded by their doctors to "smoke only one cigar a day." Few can stop entirely. All would be very much better if they had never begun.

Mention some things which harm the body.

Name some fruits and juices which will ferment if left in a warm place or in the sun.

What causes alcohol to form in juices?

What is the difference between lemonade for a drink and beer?

Why should one avoid the first glass?

Name the stronger drinks which contain alcohol.

What is the difference between the yeast plant which causes bread to rise and that which forms alcohol? [It might be well for the teacher to explain that there is no difference at all, but that in the case of bread bubbles form and when they burst the alcohol passes off. So there is no alcohol left in the bread we eat, although it is formed by the same plant.]

How does alcohol harm the body?

How does tobacco harm the body?

Why is the athlete not allowed to take alcohol or tobacco?

Why do railroad companies and big manufacturers object to having employees who drink?

Why do insurance companies refuse to insure bartenders as they insure other men?

Have you ever been tempted to smoke?
 How does alcohol act upon the stomach?
 What is beer?
 Where do we get tobacco from? How is it grown?
 What is nicotine?
 Can men always stop habits which they have formed?
 Should we be careful in forming habits?
 Name some habits which should be cultivated.

PHYSIOLOGY

SKELETON

A few bones should be secured. Borrow human bones from a doctor if possible. Doctors are interested in having children taught physiology and will gladly loan the bones and in addition will tell you many things which will make the physiology more interesting and more valuable to the pupils. If human bones cannot be secured, get a long bone from a sheep's or calf's leg.

Someone has called the body "the house we live in." As all houses have a framework so has this body and the bones compose it. You see how necessary the bones are. They are of many shapes and sizes. There are the long bones extending down the arms and legs; there are slender bones in the fingers and toes. These can be felt in one hand by the fingers of the other. (Illustrate.) Then there are flat curved plates of bone in the head, round bones at the wrist and ankle, and rings of bone forming the backbone. They are of different shapes in order to fit into different parts of the body and in order to protect the different parts.

A bone is a hollow frame which makes it strong and light. It is filled with a soft fat called marrow. (If the teacher wishes he may explain this as a storehouse and tell the use of marrow. He may compare this storehouse with that of some other animals, like the camel's hump, etc.)

The teacher may show how the blood feeds the bone. Explain that most of it is lime. Show the membrane that covers the bone. It is hard and tough.

The support of the framework of the body is called the spine. This is the backbone. It runs the entire length of the back and consists of twenty-six separate rings of bone joined together but with little pads or cushions of strong tough flesh or gristle to keep the body from jars. This whole support is called the spinal column.

At the top of the spine is balanced the skull. This is a strong box made of bone and contains the brain. There are twenty-two flat plates of bone joined together by rough edges which exactly fit into each other.

From the sides of the backbone or spine slender bones called ribs extend around the sides of the body and are joined in front to the sides of a flat bone called the breastbone. There are twelve of these bones on each side which form a box called the chest. This chest contains the heart and lungs.

The backbone rests upon the hip bones. These act as a support for the abdomen which contains the stomach, liver and intestines.

Attached to the collar bone in front and to the shoulder blades in the back are the arms. There is one long bone in the arm and two in the forearm. Then there are the hand and the wrist, the former with its many small slender bones.

Attached to the hip bones are the legs. These correspond to the arms which branch from the top of the body. There is first the long bone, as in the arm, and this is the strongest bone in the body; then there are two smaller shin bones which join it at the knees. These shin bones are joined at the instep and these in turn to the toes.

Bones are fastened together at the joints (if possible, illustrate a joint obtained from the butcher), and are bound together by strong bands of fibre called ligaments.

Although the bones are so strong yet in young people they are not so very hard and may become bent. For instance, if one constantly sits with his shoulder blades bent he becomes "round-shouldered." If he constantly bends the spine in one direction he may have "curvature of the spine." If the chest bone is con-

stantly cramped (illustrate) one may become very flat chested. Tight shoes cause the bones to take cramped positions in the feet. This is how one should sit:

Sit as far back in the seat as you can.

Never slide forward in your chair or seat.

Stand with head up, chin in, chest forward, hips back.

HOW WE MOVE

The lean part of beef is muscle. The lean meat of our bodies is also called muscle. (The teacher should bring a small piece of lean meat to school and show how it is made up of bundles of fibres and show how these are joined together.) And our muscle looks very much like that of a piece of uncooked beef. As it is the muscle of the animal which enables it to move about, so it is our muscle which give us the power of motion. Bend your forearm and feel the muscles of the forearm grow larger. It is this power to lengthen and shorten which makes the muscles able to move our bones. They are fastened to the bones at each end by strong flesh called tendons. Bend the arm and feel the tendons in it.

What a muscle shall do is determined by the brain. Some of the muscles have to be told what to do every time they move. As, when we want to pick up a stick the brain must send a message to the hand and then the muscles act. Other muscles act without our thinking, as the heart and the stomach. We cannot cause them to stop working. Muscles controlled by the will are called voluntary muscles; those not controlled by the will, like the heart and stomach, are called involuntary muscles.

The muscles enable us to work and to play and it is very necessary that they be kept in good condition. If a boy wishes to be strong he must use his muscles every day and must make them do work that is a little harder each day than that which they did the day before. Running makes the muscles of the chest and limbs strong; rowing makes the arms strong and also develops the chest; and other exercises develop other muscles. It is wise to change exercises and occupations from time to time so that all of the muscles may be equally developed.

When the tendons which fasten the muscles to the bones are strained or slightly torn this is called a sprain. When they are torn away from the bone and the joint is pulled out of its place it is called a dislocation. (For treatment see first aid.)

NERVES

Do you ever wonder how it is that you can pick up a pencil and write? Or why one draws his finger away when it touches the hot stove? Or why we put one foot ahead of the other and walk? It is because the muscles all over the body are constantly receiving messages which tell them what to do. These messages are all sent from the place where the person does his thinking. The bony skull (see skeleton for the description) is where this ruler of the body lives. All orders, which the body must obey, come from this ruler, the brain. The bones help to give us motion, but no bone can move unless pulled by a muscle and no muscle can move except by the nerves, and the nerves do not act unless they receive the order from the brain. This makes one understand why such a strong box is needed to keep the brain from harm. As exercise makes the muscles strong so the use of the brain makes it strong and makes us able to do more and better thinking than we have been doing.

The brain sends all of its messages by the nerves. These are little, fine, white, thread-like strings of fibre which go from the brain to every part of the body, the hands, eyes, ears, feet, etc.

Have a child stand up facing the class with both arms stretched out horizontally. Let the child turn his face away from one hand and when the teacher unexpectedly touches that hand, let the child move the fingers of the other hand. Have the pupils explain how the message traveled from the touched surface to the spinal cord, then on up to the brain, then down the cord to the nerve center between the shoulders, then out to the muscle which moved the fingers. Perform other experiments of like nature, getting a certain agreed upon voluntary response to touching the pupil's toe with the foot, etc. Get a reflex wink of the eye by unexpectedly sweeping the hand before the face.

The nerves are of no use if they do not reach the brain. When one of these

is cut off the muscles cannot act. For instance, if the nerve which controls the arm and hand is cut off, the arm cannot move. If one touches a hot stove the nerves send word to the brain that it is hot and the brain sends word back for the hand to be removed. There are two sets of nerves, those which carry messages to the brain and those which bring messages from the brain to the muscles. They are called nerves of sense and nerves of motion. Bring a chicken's neck and backbone (cooked) to the class. Show the children how the bones are placed and how bound together; also the hole surrounded by these round bones. The nerves do not reach the brain separately, but are bound together in one cord, called the spinal cord and this reaches the brain of a boy or girl through an opening in the spine very much like that in a chicken's spine.

When the nerves become diseased they do not always act as they should. Sometimes a boy's eyes twitch or his hand jerks. He has lost control of the nerves which govern the eye or the arm. The brain and the nerves get tired and one has to stop to give them rest. This is best done when one is asleep. Children need more rest than grown persons and so ought to go to bed early in order to get all the rest that is needed.

Every success depends upon the brain so it should have good care. One cannot remember, one cannot do old things well, or new things at all, without it.

Alcohol and tobacco are two things which harm the brain greatly. The man who has been drinking cannot walk straight, he cannot talk straight, he cannot think clearly. When the intoxication wears away his mind is clearer again, but it is doubtful if it is so clear as it was before he took the drink, for some of the brain's strength has been taken away. Tobacco deadens the senses. If a boy smokes he will soon find that he cannot remember so well as he did, he cannot get his lessons so well. Cases have been known where the boy's memory became so weakened that he could scarcely remember his name. Keep the brain clear with good food, good water to drink, play, study and plenty of sleep.

BREATHING AND THE LUNGS

NOTE.—A review of Breathing will be helpful here.

One breathes constantly for the purpose of taking into the lungs that part of pure air called oxygen and to send out from the lungs impure air. Oxygen makes the blood bright red. We can take in air through the nose or throat, but it is always better to breathe through the nose to keep out the dirt and to warm the air. The air goes from the nose into the throat where a trap door made of gristle opens into the windpipe. When the gristle door is opened air may enter the windpipe. The upper end of this windpipe is a gristly box called "Adam's apple" (feel it in your throat). Across the box below the trap door are stretched two elastic strips called vocal cords. The breath comes from the lungs and passes between these cords which causes them to move, thus producing the voice. Feel the windpipe below the "Adam's apple."

The windpipe below the throat divides into two tubes and these in turn into still smaller ones called bronchial tubes. These are divided and subdivided until they finally end in a number of little air cells in what is known as the lungs. It is here that the blood is made pure again. The walls of these tiny cells are as thin as tissue paper. There are tiny blood vessels between these cells, and it is into the blood that the oxygen passes and is carried all over the body. At the same time what has been in the lungs is given off and the "worn out" air or impure air passes into the air cells in place of the pure air and is carried out in the breath.

Exp. Take a glass jar, a candle and some matches. Light the candle, put it on the table and place a jar over it. Slowly the flame goes out. Why? Slide the jar to the edge of the table and take the candle out. Light it again and slip it carefully up into the jar again, being careful not to change any of the air already in the jar. This time the candle goes out at once. Turn the jar so that it may again be filled with pure air. Once again the candle burns with a pure flame and slowly goes out. What happens to the air in each case? Show the child that this is just the case in the lungs.

Taking in a breath is called inspiration.

Teach the children to wear loose clothing to prevent improper breathing.

One needs good pure air.

Proper exercise strengthens the lungs.

What is meant by a narrow chested person?

Breathe through the nose. If a child has trouble doing this tie a long handkerchief around the chin so that the mouth will be kept shut.

THE BLOOD AND ITS HYGIENE

All have seen blood. It is red and looks thin like water but when it is examined we see that it is thicker. It is composed of three parts, the watery part, the red corpuscles, and the white particles called white corpuscles. The watery part is the food which has soaked through the intestines, stomach, etc.; the red corpuscles carry the oxygen through the blood to the tissues to exchange for impurities; the white corpuscles are the policemen to keep away a great deal of harm. For instance, if a sliver gets into the hand it is these white corpuscles which gather around it and cause the place to fester, if the sliver is left, and finally pushes it out.

When the finger is cut the blood flows very fast at first, but finally thickens and, unless the cut is very deep, at last stops the flow. If we use hot water the blood will thicken very soon; if cold water, it flows longer. If an artery is cut the blood runs so fast that the person would soon bleed to death if some means were not taken to prevent it.

It is the blood which gives color to the lips and cheeks, strength to the body, and power to think well to the brain. If one desires pure blood he must eat good food, breathe pure air, and take exercise.

The blood is carried over the body by a system of pipes like waterpipes and is brought back by a system of sewer pipes. The heart is the great pump which sends the blood out. Put your hand on your left side and you will feel this pump. Every time it beats it is sending blood into pipes which carry it all over the body. These pipes or arteries, divide until they become very small. They take to each part of the body the food which that part of the body needs and then the blood filled with the waste matter is collected into another system of pipes called veins, and is carried back to the heart. This course of the blood is called circulation.

Exercise makes the heart beat faster. It therefore makes the blood flow faster and so warms one.

Tight collars, waists, garters and shoes keep the blood from flowing freely. Tie a string around the finger quite tight. Notice the effect. The same effect in larger measure is caused by having the clothes too tight.

The stomach needs blood for digestion, the skin needs it for its color, the brain needs blood that it may think well. Every part of the body needs it that it may keep in health. The boys and girls should be very careful to keep it pure and to keep the heart in good working order.

Alcoholic drinks and tobacco may make the heart beat too fast and unevenly. It has too much work to do and so works very fast for a time and then unevenly. It is dangerous to have the heart in this condition for it might stop beating entirely. Alcohol also deadens the nerves which control the heart. It injures the blood vessels and also the red corpuscles.

Tobacco makes the heart beat faster but the strength of the beat is lessened. "Tobacco heart" is caused by first a fast beating and then a slow beating caused by using tobacco.

Why does alcohol make one red in the face?

Does blushing make the face warm?

FOOD AND EATING

The air which purifies the blood comes into the lungs through the nose and windpipe. The food reaches the stomach by first taking it into the mouth and then swallowing it. It is the food we eat which keeps the body built up, makes it grow, nourishes the muscles and keeps the body warm. But the food one eats is not much like the flesh it makes. It must undergo several changes before it becomes flesh. These changes are called digestion.

Now there are some kinds of food which make tissues or flesh, there are others which contain very little nourishment but are useful foods, and some which make fat and heat. Some of the common foods which make flesh are

whites of eggs, lean meat, beans, peas, cheese. The starches and sugars give fat and heat, like cream, butter, honey, sugar, fat meat, lard, corn, potatoes, rice. Fruits and vegetables are good for food but do not contain so much that is nourishing.

Water and salt are very important foods. Much of the water we obtain comes to us through other foods, but we need a great deal of this healthful drink by itself and not mixed with our foods. Good, cool, pure, clear water is the best drink for anyone. A person can live for some time without food other than water, but only a few days without water. Ice water does not quench the thirst like that which is simply cool. It really makes one more thirsty. Salt and other minerals needed in the body are taken into the stomach in fruits and vegetables.

When it is very cold we need to eat more fat meats, butter and starch foods. In summer time fruits and vegetables and foods which do not produce heat are better.

SUGGESTIVE OUTLINES

STOMACH AND DIGESTION

Digestive organs.

Alimentary canal, esophagus, etc.

Preparation of food in the mouth.

Teeth—number, use, shapes, etc.; care of teeth; review of hygiene.

Saliva—its use and mixture with food.

Esophagus—description.

Stomach.

Description of.

Action of stomach upon foods.

Fluids of stomach and action.

Absorption.

Small intestines.

Action of bile and pancreatic juice.

Description of the liver, including its secretions and functions.

Absorption.

Blood and digestion.

Larger intestines.

THE SKIN

Covering of the body.

Dermis.

Epidermis.

Location of nerves and glands in the skin.

Description of sweat glands and uses of same.

(Review hygiene of skin.)

SEEING

Use of sense of sight.

Eyeball—description.

Parts of the eye and description of (cornea, pupil, iris, etc.)

Optic nerve and its relation to sight.

Hygiene.

HEARING

Outer ear.

Description and hygiene.

Middle ear.

Ear drum.

Hammer, anvil and stirrup.

Inner ear.
 Description.
 Fluid of.
 Auditory nerve.
 How we hear.
 Hygiene.

TOUCH, TASTE AND SMELL

Touch.
 Location of nerves of.
 Uses of the sense.

Taste.
 Location of nerves of.
 Uses of the sense.
 How things taste (sweet, sour, bitter, etc.)

Smell.
 Organ of smell.
 Description of nose.
 Structure.
 Divisions.
 Hard palate.

Breathing.
 How one breathes.
 Location of sense of smell.
 Compare this sense with that of animals.
 Uses of the sense of smell.

CLOTHING

Clothing does not give heat, but prevents the escape of bodily heat. Dry woolen is the warmest of clothing, silk is next. In cold climates woolen may be used next the skin. White clothing is cooler than colored, red and black being the warmest. Linen is the coolest clothing as it lets the heat of the body pass through it and absorbs the moisture readily. Cotton and linen make the best clothing for summer wear. Fur is the best protector against the cold. Esquimaux and others who live in the very coldest regions wear furs to keep them warm because none of the heat of the body can pass away through the fur.

The face and hands need little or no clothing; the back, chest and abdomen need to be well covered, while the feet need more covering than the hands but not so much as the chest. A person should wear enough clothing to keep him comfortably warm. When the clothing is wet it should be changed at once. Cold feet are often caused because the stockings are saturated with perspiration. Drying the shoes and stockings every night will sometimes help this. A thick paper sole cut and put in the shoe in the morning will often prevent cold feet. Bathing the feet each morning in cold water and giving them a brisk rub will often keep them warm. A newspaper wrapped around the body inside the coat is as good as an overcoat and if a paper is spread between the quilts of a bed it will often make up for a lack of covering on a cold night.

When one has become heated by running or exercise or work he should put on extra clothing rather than remove any. A sudden cooling of the body causes one to take cold.

The clothes worn in the day time should all be removed at night, and should be well aired while one is asleep. The waste matter from the body and skin has been taken up by the clothing. A good airing will remove some of this and make the clothing fresher for the next morning.

DRAWING

In the average rural school, the work must be presented to all pupils at the same time; in some schools it might be given in two periods, to primary and to advanced pupils. The work in color combinations, picture study, and a variety of subjects can readily be given to the school as a whole. In representative and constructive work, though it must be presented to all grades at the same time, more finished work may be required of older pupils.

The aim in drawing is to teach the pupils to see, to express what is seen, and to assist in the development of their creative powers. Appreciation and good taste should be the ideal throughout the work.

Correlate the work with other subjects and with the life of the children. Pictorial drawing should be along the line of their interest. Have the work as varied as possible.

An important feature is the cultivation of an artistic sense leading pupils to appreciate correct color combinations in dress, arrangement of flowers in bouquets, furnishings of home, etc.

Continue the picture study throughout the year. Do not make the study of a picture and the life of the artist a mere statement of facts. Make pupils enjoy pictures. Study for beauty.

Careful and artistic mounting of some of the drawings will aid greatly.

Teachers will find it helpful to have a collection of *artistic* designs in wall paper, linoleum, textile designs, and book covers, and copies of good pictures.

Manual training and drawing in the early grades are so closely related that where time is limited their separation into two courses of instruction would be working at a disadvantage.

Constructive work should be of immediate practical value. Correlate it with arithmetic.

Drawings should be in harmony with the season, the special thought of the month, the locality, the work in other subjects.

Try for simple effects. In work with young children, keep to silhouette, or flat effects, and make no attempt at perspective. Do not attempt too much, but have all work carefully done.

The following outline will suggest work for the various months. The previous work of the pupils in drawing and the preparation of the teacher, must be factors in determining the kind of work and how advanced work shall be given. We would suggest that teachers who have had no preparation for teaching the work procure some standard series of drawing books as a help in presenting the work.

SEPTEMBER

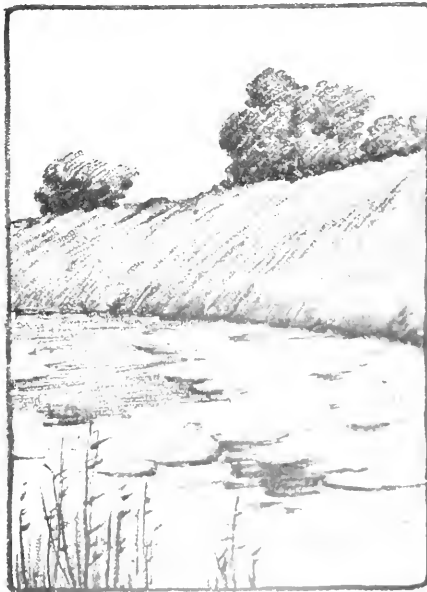
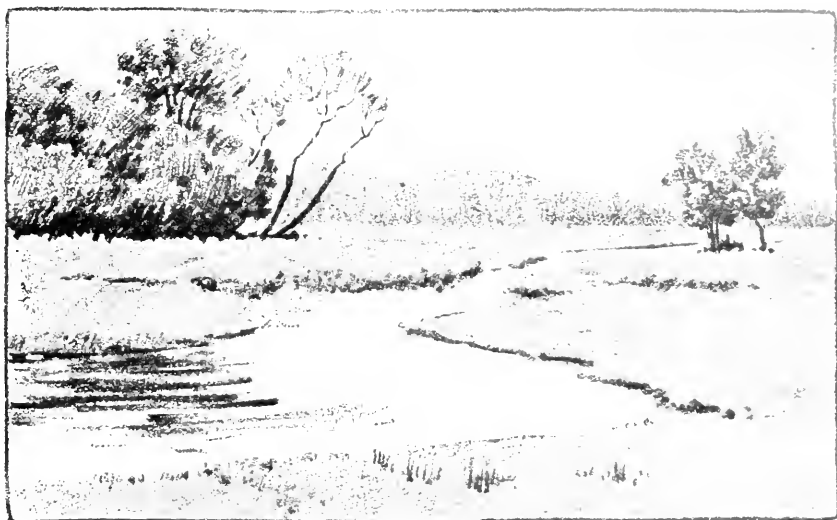
Color Work.—Study of color chart and colors of spectrum. Notice color of trees and flowers. With crayons and water colors, represent colors found in nature,—trees, flowers, grasses, weeds, sky.

Make flat washes as follows: Cover the paper with a water wash by filling the brush with water and brushing with light, quick strokes. Rub the brush across the color cake which has been previously moistened, and then brush the color over the moistened surface of the paper. Graded washes may be made by having more water in the brush or taking up less color. Mix the colors for secondary colors. Study shape of trees and represent with pencil, paint, or ink. In using pencil, work for lines as in illustrations.

Paper Cutting.—Represent nature forms and illustrate stories.

Begin work in measurements, also freehand practice of straight and curved lines.

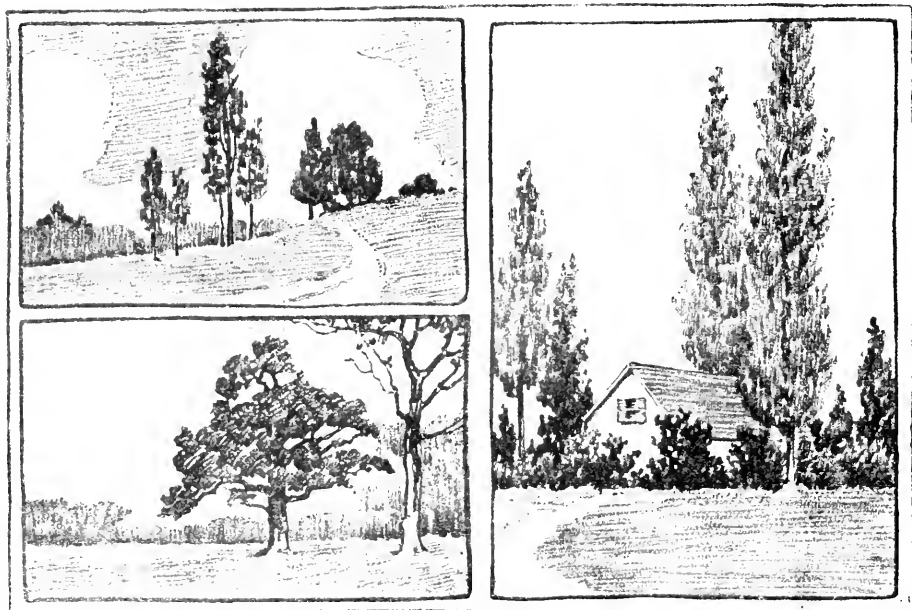
Each child make an envelope of heavy paper to hold drawings.



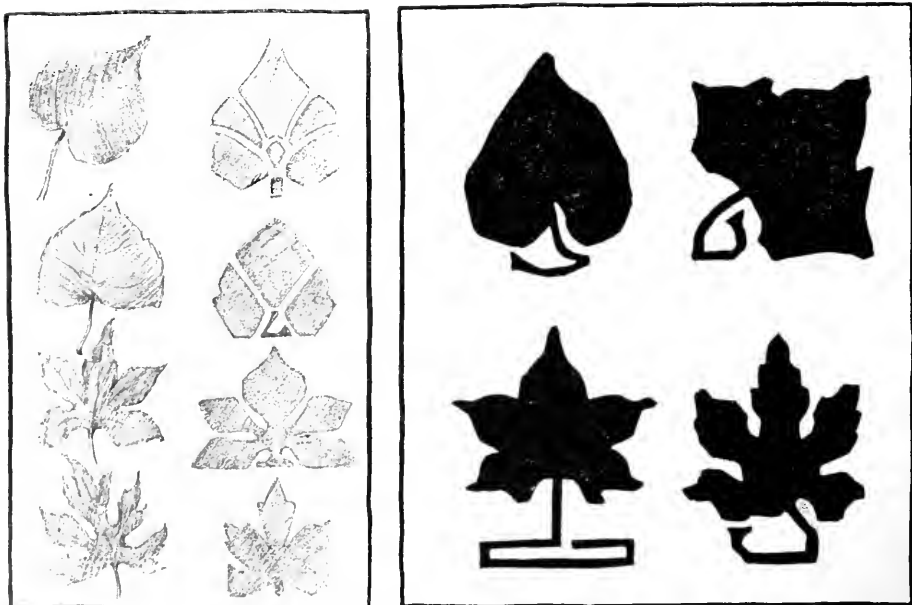
OCTOBER

Represent seed pods, seed branches, leaves, vegetables, fruit.

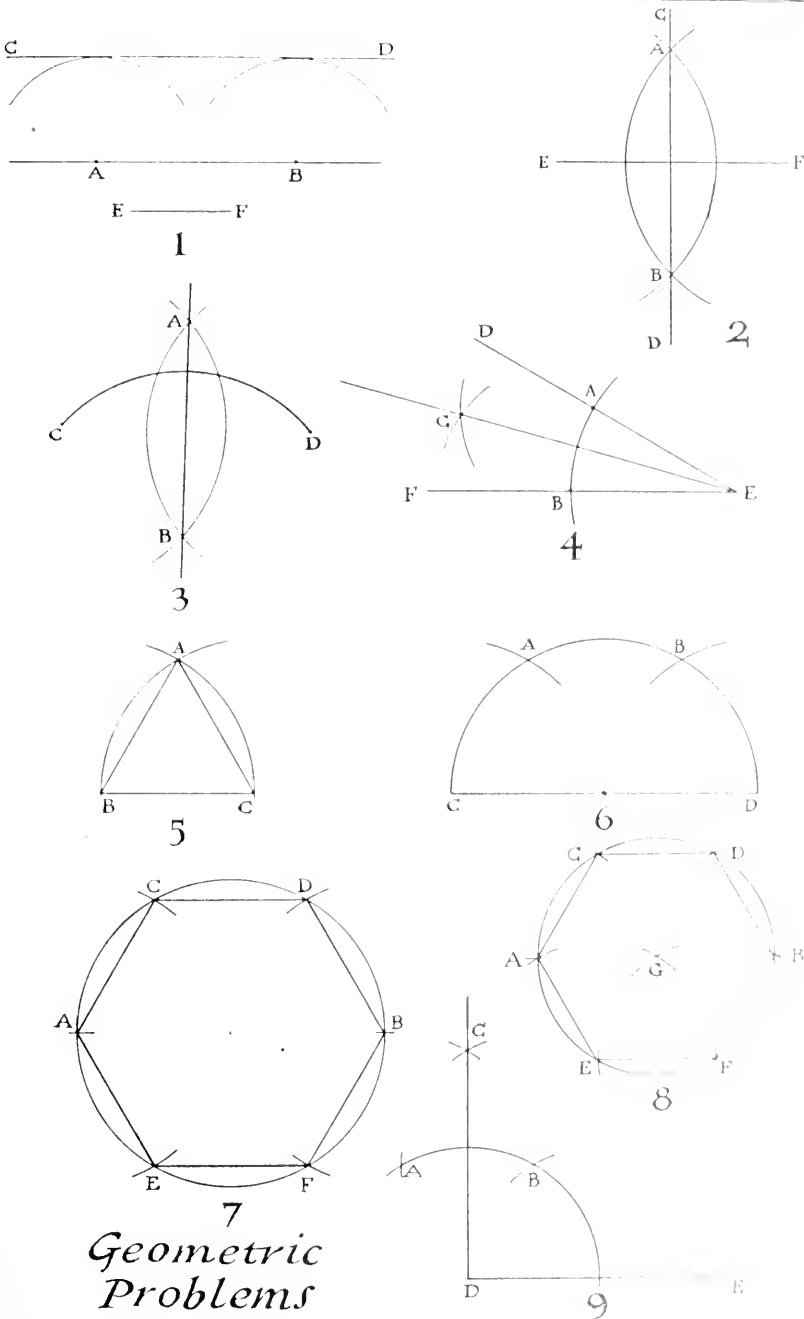
Design.—Select leaf form or other form and make a unit for all-over or border design. Give special attention to spacing, and orderly arrangement in design.



Courtesy of Atkinson, Mentzer & Grover Co.



Courtesy of Atkinson, Mentzer & Grover Co.



Make a simple landscape in color, first making the blue wash for sky, grading to a lighter shade as in nature. Represent trees as a mass of green or color of autumn tints. Paint trees before the sky is dry. Keep the landscape simple.

Have young children paint autumn leaves either with or without tracing the outline, and cut out Hallowe'en pumpkin and color. Older pupils may do constructive work correlating with arithmetic.

NOVEMBER

Much of the work can be correlated with the thought of Thanksgiving and stories of the Pilgrims and Indian life. In grades in which any written composition work is done, make designs for book covers, always studying appropriateness of design. Make the design suggestive of contents. This will involve laying out of marginal line, ornaments, lettering, etc.

Make alphabet of straight line capital letters.

Paper cutting.—Pumpkins, turkeys, wigwams, Mayflower, etc.

Pencil work.—Figures involving but two dimensions.



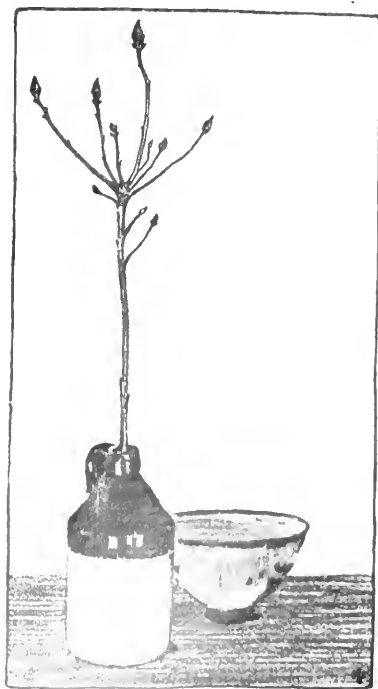
Courtesy of Atkinson, Mentzer & Grover Co.

DECEMBER

In most schools but little can be done except the work in connection with Christmas, and construction work for gifts. Pupils of all grades can make, often plan, some piece of handwork. The problems in measurement will be of benefit. Holly, cones, pine, etc., will furnish appropriate unit for designs.

One tree is tall and one is wide,
And one's loved best at Christmas-tide;
I pray thee tell which one may be
The apple—poplar—Christmas-tree.

Now pencil take and show which tree
Should in a spreading orchard be.
Where pink and white the blossoms blow,
The petals fall, the apples grow.



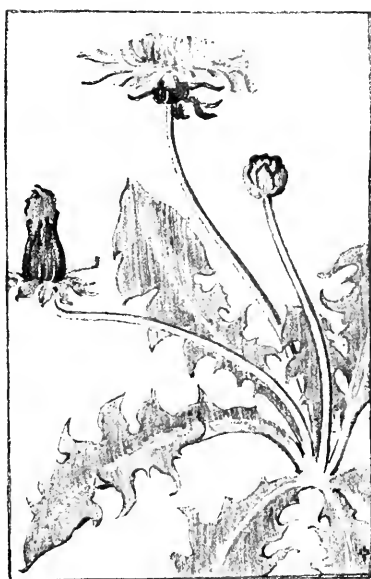
Courtesy of Atkinson, Mentzer & Grover Co.

Then make one high,—point to the sky.
 Another and another try
 Until you may have six or so
 All standing in a "Poplar row."

With Christmas candles all aflame
 And here a toy and there a game
 Brought from its field of softest snow
 The fir tree decked for Christmas show.

Picture study.—Make much of this work. Lead the children to know and enjoy the Madonnas and masterpieces connected with the life of the Christ Child.

Illuminate the initial letter of mottoes.



Courtesy of Atkinson, Mentzer & Grover Co.

JANUARY

The holiday toys will in many cases be interesting material for representation. Connect these with the various type forms, as cube, cylinder, etc.

Make these drawing models of paper. Name many objects based on these forms. Follow this by representing their appearance in different positions. Only older pupils should represent perspective.

Models.—Winter vegetables, Japanese lanterns, dinner-boxes, pails, cups, flower-pots, jugs.

Pose drawing.—Keep the work free from details, making the first work only a study of proportion. Figures in action may be represented with straight lines.

Handwork.—Calendar.

FEBRUARY

Give work appropriate to birthday anniversaries and St. Valentine's day.

Continue the work in representation of forms suggested for previous months.

Begin to group objects, and study the effect of light and shade, and shadows. See illustrations.

Draw a flag and color.

Handwork.—Fold soldier's cap. Cut five pointed star. Make valentines and envelopes.

MARCH

Study designs for wall paper, oil cloth, carpets, dress goods. The teacher should be well prepared for criticisms before she gives the work to the class.

Take a leaf and cut a simplified representation of it. Arrange in border and wall paper pattern. Keep very simple. In color or in ink make an all-over design. Make stencil patterns from the unit. Study the buds on the trees. Sketch twigs with buds. Continue the studies of still life groups.

Represent a landscape with trees having no leaves.

APRIL

Draw twigs, buds, flowers, pussy-willows, dandelions.

Make Easter card or booklet. The outline of the design may be traced for young pupils to color.

Print mottoes.

Study the appearance of handles and spouts on dishes in different positions. See illustration.



Courtesy of Atkinson, Mentzer & Grover Co.

MAY

Spring landscapes may be studied and painted. Select simple studies. Paint fruit tree in blossom.

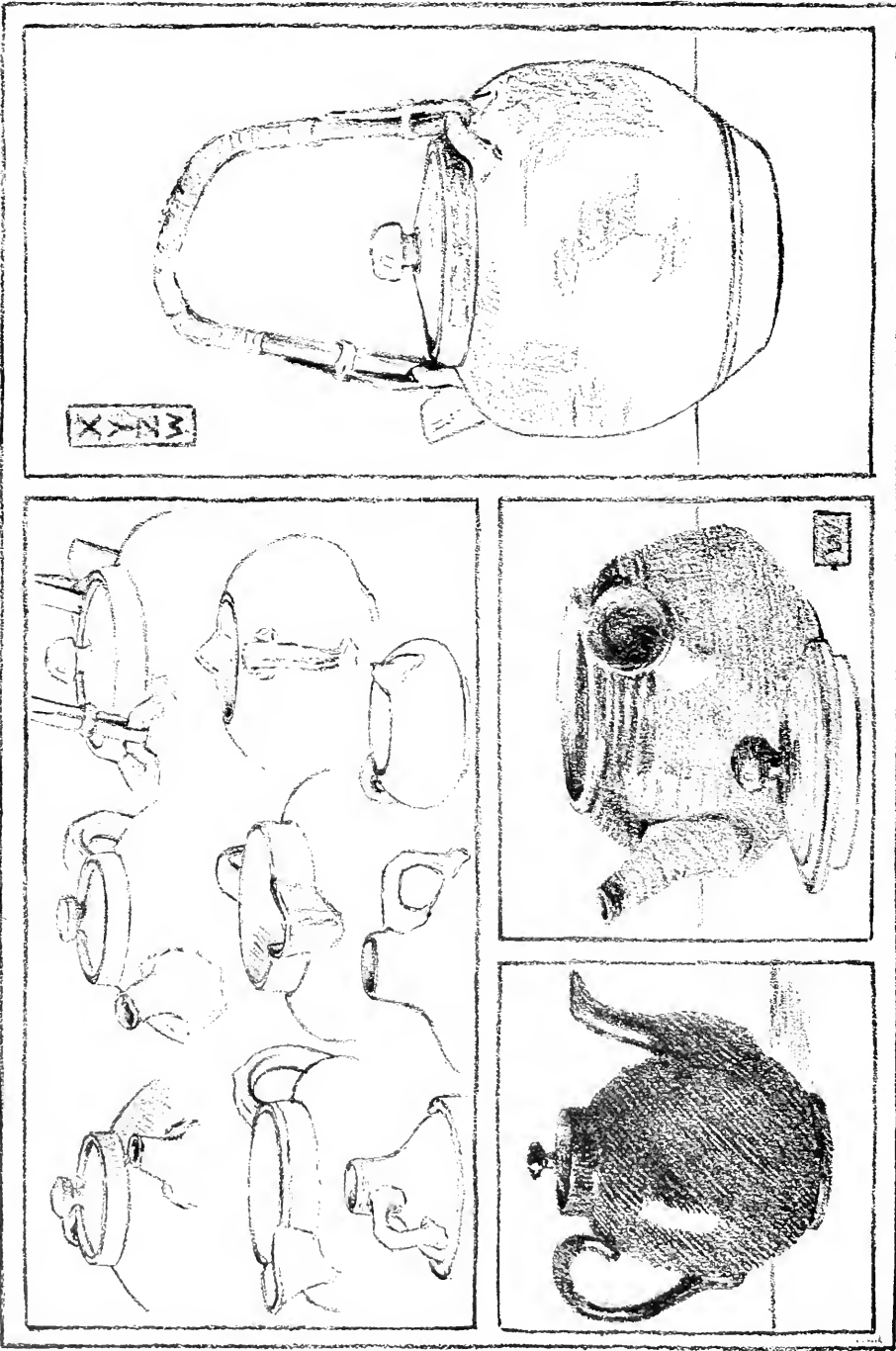
Nature is lavish in her supply of subjects for art lessons. Select the larger flowers.

Cut and fold May baskets.

JUNE

Continue the painting of flowers and vegetables.

Review as much as possible all lines of work, especially such work as most needs extra practice.



Courtesy of Atkinson, Mentzer & Grover Co.

VISUALIZATION

Visualization is mental vision. It is the power of combining at a glance the parts of anything so that the whole is apperceived in its relations. Visualization in arithmetical processes means the ability to see the whole combination at a glance,—to see 75 and to see instantly 144. Just as one sees the word "Eskimo"

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when it is written on the board, and not the different letters that form the word, or as we see the whole cat in a picture of that animal and not the lines that make it. It is the power of "thinking with the eyes"—of seeing numbers in their relation, of combining them automatically and instantaneously.

Ability to visualize whole problems at a glance is gained in a short time, and the fundamentals are mastered in this way with but very little trouble.

The work in visualizing in arithmetic includes addition, subtraction, multiplication and division, and denominate numbers and percentage. The visualizing results are discovered at sight, sums of long problems stated instantly, as well as differences, products and quotients, so that when the pupil enters the seventh grade he is master of reasoning processes as well as the automatic manipulation of numbers.

To genius, the power to visualize is native, but it can be acquired to a certain extent by any one, and in arithmetical processes in a very short time. The power to picture clearly and distinctly is important to any kind of creative work, and is a part of the native gift of the poet, inventor, artist, electrician.

It can be developed by drill and by appeal to the spontaneous activities of the child. Through the eye, ear, touch, taste, smell, the child gains clear concepts of objects, and the ability to form mind pictures clearly depends on the vividness of these concepts, hence it is important that as many senses as possible be brought into intense activity.

Beyond the mere rapid and accurate handling of figures and processes, there are still more important results to be obtained in arithmetic teaching. Not many pupils will become accountants or require more than a fundamental knowledge of the subject but to every pupil alike, the system of arithmetic teaching through visualization is of great value. Through the use of objects every principle in arithmetic is taught. Through the visualization of numbers results are reached and every problem is a direct appeal to the imagination, which will eventually lead to abstract thought.

This power to visualize is of much value to the engineer, or architect—to be able to see his project in detail before it is drawn on paper. The designer of no matter what, must be able to see his production mentally before he can produce it on paper. The power of picturing problems, of keeping several conditions visualized at the same moment, gives to the pupil a power over his own memory. Imagination and thought that is of more value to him than the arithmetic knowledge itself, and must eventually serve him in a world whose increasing demand is for sureness, swiftness, alertness, and power of rapid, clear, unerring thought.

SENSE-TRAINING

All intellectual development has its origin in sight, sound, touch, taste, smell. Every new idea gained by the mind has its physiologic basis in sensation. Therefore, the acquisition of knowledge cannot be considered apart from sense media. It is the business of school life to develop knowledge through the trained activities of the child. He must acquire the fundamentals of whatever subject he studies, through his own concrete experiences. Thus, as his mind develops and expands, will he acquire co-ordination of muscles, and gain in ease, grace, facility, poise, and harmonious action.

The exercises are not an end. They are a means to an end. The knowledge of the material world derived through the senses is limited to the measure of their acuteness.

Textbooks in the hands of young children inhibit the powers of observation. In connection with the development of the senses teachers have opportunity to note peculiarities and defective senses of pupils, and they are enabled to deal with such pupils with this in consideration.

Modern psychologists agree that it is impossible to form generalized habits of memory, reason, or other intellectual faculty. Man is endowed, not with memory, but with memories; not with reason, but with reasons; and each capacity is independent of the other. Keeping this truth in mind, harmonious sense-development must be strictly in line with the subject studied and must have a definite educational aim.

A generalized habit of observation would be neither possible nor desirable. A doctor on a sick call would be hampered by the habit of observing everything on the way and his usefulness hindered by his habit of noting every detail of sight or sound about him. It is possible, however, to have children observe closely and definitely along the lines of each particular study they pursue, having in mind a definite educational end of such observation with selection of important details and elimination of irrelevant matter. In this way an ideal of observation is created, so that the power will appear or be easily developed, when it is necessary. In sense-training, therefore, the teacher should *"do nothing without a definite aim."*

The child must acquire abstract principles through his own experiences. Do not tell him that five and five are ten, but let him count the quantities and discover the relation for himself. Do not tell him the location of a city depends on physiography, climate, natural and commercial resources, but teach the subject so that he will discover the underlying principles himself. Do not tell him that the sound of the locomotive whistle is shrill, but let him listen and select the word that best describes the sound.

The following exercises are merely suggestive of many others they may be used that will grow out of the teacher's daily work.

First year.

Use as many objects as possible. Have them varied in form, color and size. Use varieties of blocks, as cube, square and cylinder. Let the children acquire terms as they need them of all the forms used, as well as such descriptive words as circular, oval, round, square, solid, prism, ratio and relation. Use colors in cards, sticks and blocks and let them learn the names of each incidentally, as they use them. Use artificial coins of paper and let them learn to make change. With the paper clock-face, have them learn to tell time. Have them learn to weigh, measure and count in connection with their work as it advances. Let them use the foot-rule and the yard-stick freely. Let them cut from paper the forms studied. Let them work out all problems at first with objects and discover the results concretely. Make an arithmetic lesson in this grade largely an exercise in sense-training as well as language. Hold up a cylinder. Let the children observe it and give the name. Let them discover cylindrical blocks on the table. Fold a cylinder from paper, write the word. Find cylindrical objects in the room. Name many cylindrical forms, as pencil, chalk, stovepipe, hat crown, top of ink bottle.

In the same way teach square, cube, prism, round, circular, ball, globe, sphere. Let children select the different forms from the table, compare and name.

I. Compare two cylinders whose ratios are 1 and 2. Have them observe and express the ratio in as many ways as possible, as

A is $\frac{1}{2}$ as large as B.
 B is twice as large as A.
 The ratio of B to A is 2.
 There are 2 A's in B.
 There is $\frac{1}{2}$ of B in A.
 $A + A = B$.
 $B - A = A$.

Repeat the process with cubes, with squares, with chalk, with apples, so that the concept of value will not be attached to any one object, but will become to them an abstract principle of universal application.

Let the children see the word on the blackboard, as "cylinder," "prism." Erase and let them write it from memory.

Let them become familiar with different forms and colors through much handling, comparison, etc. Encourage them to use the descriptive terms freely.

II. Measure a pint of sand,—a quart of sand. Compare. Express results of comparison as.

1 pint is $\frac{1}{2}$ of a quart.
 There are 2 pints in 1 quart.
 The ratio of a pint to a quart is 2.
 If a pint is 10c a quart is 20c.
 If a quart is 16c a pint is 8c.
 If there are 25 pebbles in a pint there are 50 pebbles in a quart.
 If there are 40 pebbles in a quart there are 20 in a pint.
 There are 2 pints in 1 quart.
 Then in 2 quarts there are 4 pints.

Let them measure and compare and make up problems which they will work out by experiment. Let one keep store, another may buy a pint and a half of cream at 20 cents a pint and pay for it with a fifty cent piece.

Dictate rapidly sums as $6 + 3 + 9 + 4$, and differences as $50 - 39$, and combinations as $7 \times 2 \times 6$, and $18 \div 3$, and require instant answers. Memorize and repeat the combinations in addition and multiplication. The teacher will write on the board rapidly, long columns, erase, require the sum. Teach differences, multiplication and short division in the same way. This work should be done *every day*, for ten minutes or more. Teach relation of inch, foot and yard, perimeter of square and its relation to other squares, gallon, quart, pint, by comparison, measuring and experiment.

Every exercise should be carefully prepared in advance by the teacher so that not a moment is lost, and should be carried out in an orderly, systematic way. Let the children skip to the table, do their work, express results in clear well-defined sentences, and skip to place to observe the next. If the work is properly prepared, they will be ready, alert, responsive and orderly without further incentive than the interest aroused by the work.

INTERMEDIATE GRADES

Work for speed and accuracy. Require quickness of movement, instantaneous response, answers always well-expressed.

Have the children learn simultaneously small fractional, decimal and per cent forms. It is just as easy here as later to have them understand that $\frac{1}{4}$, 1, 100% are the same; that $\frac{1}{2}$ equals $\frac{2}{4}$ or 50% or .5.

Let a pupil count out 100 sticks and tie in a bundle. How many fourths in this bundle? Then $1 = \frac{4}{4}$.

How many sticks in $\frac{1}{2}$ the bundle? Call it 100%. What per cent in $\frac{1}{4}$ the bundle?

Call the bundle $\frac{1}{10}$. Write it 1. How many sticks in $\frac{1}{10}$? Write it .5. What does .5 equal?

What does $\frac{1}{4}$ equal? What per cent? What decimal?

Teach $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$, in this way.

Use 100 shells, 100 cards, 100 sticks. Make bundles. Call the bundle 1. Divide it into 50%, 25%, 10%, 20% parts.

Divide it into 10ths, .5, .1.

Divide it into 4ths, 5ths, 20ths, halves.

Write each value as it is found.

Compare $\frac{1}{2}$, .5, 50%.

Compare $\frac{1}{10}$, .1, 10%.

Compare $\frac{1}{4}$, .25, 25%.

Compare $\frac{1}{20}$, .05, 20%.

Then

What is $\frac{1}{2}$ of 40 sticks?

What is $\frac{1}{4}$ of 40 sticks?

What is $\frac{1}{10}$ of 40 sticks?

What is $\frac{1}{20}$ of 40 sticks?

What is 100% of 40?

What is 50% of 40?

What is 25% of 40?

What is 10% of 40?

What is 20% of 40?

What is $\frac{1}{10}$ of 40 sticks?

What is $\frac{1}{20}$ of 40 sticks?

What is $\frac{1}{10}$ of 40 sticks?

What is $\frac{1}{20}$ of 40 sticks?

Compare results.

In the same way use 20 cards, 80 dollars, 60 inches.

Hold the children to these fractions in many varieties of exercises with many different materials until the relations are thoroughly understood. Make problems in which the fractions, decimal and per cent are used, and compare results. Teach in these grades all the smaller fractions in this way as $\frac{1}{3}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{1}{6}$, $\frac{5}{6}$, $\frac{1}{8}$, $\frac{3}{8}$, $\frac{5}{8}$, $\frac{7}{8}$, $\frac{1}{10}$, $\frac{3}{10}$, $\frac{7}{10}$.

Draw a square foot on the table or blackboard. Divide it into square inches. Each child draw a square and divide it. Count the rows of inches. Count the square inches in each row. How many square inches in a square foot?

Draw a square foot freehand and compare. Find surfaces which seem to contain a square foot. Measure. Find the number of square feet in the top of the desk, the table, chair seat, wall space, board space, window, door, etc. The distance around the square foot is the perimeter. The number of square inches it contains is the area. Find the area and perimeter of many surfaces.

Develop the square yard. Measure the square yards in the table top. Change it to square feet. Measure the square feet in the floor. Change to square yards. Make rules after measuring and changing areas of different surfaces.

Look at a cubic inch. Measure its size. Describe. Observe a two inch cube. Compare with a one inch cube. Observe a four inch cube. Compare with a one inch cube. Observe a cubic foot. Compare with a cubic inch. Measure. Find how many cubic inches in a cubic foot.

How many rows high?

How many rows wide?

How many rows deep?

How many cubic inches in all?

Draw a cubic inch.

Draw a cubic foot.

Fold a cubic inch.

Find the number of cubic inches in half a cubic foot? $\frac{1}{4}$ of a cubic foot? $\frac{1}{12}$ of a cubic foot?

How would a cubic yard compare with a cubic foot?

All through these grades vary the work by introducing thought problems in which the reasoning processes are the simple applications of principles. All of these problems should be oral.

1. A man having \$200 spent 10% of his money for books, $\frac{1}{2}$ of his money for rent and 5% for clothes. How much had he left?

2. How many pints in 50% of 10 bushels?
3. What per cent of 40 is 10?
4. What is $12\frac{1}{2}\%$ of 120?
5. 20 is what per cent of 50?
6. 20 is what fraction of 60?
7. 15 is what decimal part of 60?
8. How much paper a yard wide will be required to cover a wall 18 ft. long and 10 ft. high? What will it cost at 40c a roll if there are 10 yards to the roll?
9. What will $4\frac{1}{2}$ gallons of cream cost at 16c a pint?
10. If chestnuts are bought at 40c a bushel and sold for 5c a pint, what is the gain?
11. An agent sells 240 yards of goods at \$1.50 a yard. If he receives as his pay 10% of the amount of his sales what is his profit?
12. What is gained by buying 160 acres of land at \$25 an acre and selling it at $\$27\frac{1}{2}$ an acre?

Each day have the children visualize problems in addition, subtraction, multiplication, short division by placing the problems on the board, erasing immediately and requiring the answer at once.

Dictate many problems in addition of fractions, as $\frac{1}{2} + \frac{2}{3} + \frac{5}{6} + \frac{1}{4} = ?$ Require instant answers.

Give also combinations in subtraction, multiplication and division.

In these grades the pupils should become skillful and accurate in results at sight in addition, subtraction, multiplication, division of simple numbers, and to some extent in fractions, decimals, denominate numbers. They should weigh, estimate, measure, buy and sell, make problems, collect problems, make change, etc. Eye, ear and hand should be appealed to constantly.

Additional exercises.

Have pupils observe objects as cards, colored sticks, boxes, blocks, whose ratios are 1—2—3. Cover them. Call them A, B, C. State relation. As 1 is $\frac{1}{2}$ of 2, 2 is $\frac{2}{3}$ of 3. Arrange a group of objects behind a screen. Allow pupils to pass along and look at them as they pass. Call upon them to state the relative size of each.

Have numbers 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24 on blackboard. Teacher says, 4, 8, 12, and the pupil points instantly to 24, the sum. The teacher holds up two solids whose ratios are 1 and 2. The teacher names one solid 2 or 6 and the pupil names the other.

The teacher holds up two solids and puts them down very quickly. Pupils compare as "the small one is equal to $\frac{1}{4}$ of the large one." Or the pupil states the ratio, as "4 is the ratio of the large solid to the small solid." The teacher uses pointer, ruler, or pencil, and writes figures in the air. Pupils write on the board and give sum.

Have the children cut from paper a 2 in. square. Then cut one twice as large and compare them. Cut one three times as large.

Place a number of solids on the table. Compare and state the relative size of each.

Draw a line equal to L —————. Draw a line two times as long as L. Draw a line three times as long as L. Letter the lines differently and then add them in this way.

L M N

The sum of L and M is equal to N.

Have children look for objects in the room that are round, oval, square, oblong.

Take 6 blocks, calling them one, two, three. Do not arrange them in regular order. Have the child see them, cover quickly. Let him state the relations.

Give a value to one of the blocks, and tell the values of all the others. The first block is two, what are the values of the other blocks?

Draw different forms of blocks on the board. Erase quickly. Let the child tell the form which was drawn.

Take a set of six blocks. Place them in the following order: 2 in., 6 in., 3 in., 1 in., 4 in., 5 in. Name the 6 in. block 12. Have children name the others.

Take a set of 6 blocks. Compare 1 inch block with each of the others. Then compare each of the other blocks with all the remaining blocks.

Have a row of children skip to the table and find a block which has a relation or ratio $\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{3}$, $\frac{5}{6}$ to some other block, and vice versa.

Using the 1 in. cube as a unit of measure, have children take different blocks and find how many cubic inches they contain.

The teacher holds up quickly two blocks from the same set, as 2 in., 4 in., puts them down and calls on the child to give the relation of blocks that he saw.

The teacher writes two numbers on blackboard quickly, then erases. The teacher calls on child at seat to give sum.

The teacher makes a column of four figures in the air. The children reproduce on blackboard and write sum.

Have a row of children take any block from the table and compare one face with another.

After pupils know the relations of solids, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, have them put hands behind backs. Place in the child's hands two solids, and by feeling them, have him tell you whether he has solids one and two, one and three, one and four, etc.

Have one pupil come to the table. Place solids in his hands behind his back and have him name them.

Have pupil hold hands behind his back. Give him solids, and after he has felt them, give their dimensions without looking at them.

Place different objects of various sizes, such as cone, sphere, cube, pyramid, in a row behind a screen. Remove the screen, and allow children to look at objects for a few seconds. Replace screen and have children name objects and compare.

Give each child a foot ruler. Show him an inch, then six inches. Have him go to the blackboard and draw a line one inch long, six inches, one foot. Afterwards have him measure his lines with ruler to see if they are correct.

After scattering blocks on table, have children find two blocks of the same shape that are equal. Then find blocks of different shapes that are equal.

Number one set of solids 1, 2, 3, 4, 5, 6, and place in row on table. Cover and change the position of solids. Uncover for a minute; cover and have pupils number the solids from left to right. Use three solids at first, then six.

Name blocks at sight, rectangular prism, square pyramid, cone. Compare solids thus: My right hand block is smaller than my left hand block, and vice versa.

Draw lines of different lengths on blackboard. Estimate comparative length of each.

Draw rectangle, circle, square, and other forms on board. Erase quickly and have the pupil tell what you drew.

Show the children two or more blocks. Compare them in height, width, thickness.

Place cone, sphere, cube, and other objects on table. Name.

Handle sets of blocks, first using blocks one inch in height. Children find blocks of different heights as the teacher indicates. Study tops, then build and arrange in sets. Draw circles, squares, and rectangles on the board. The children will tell which are largest, which smallest, and which are equal.

Put simple addition problem on the board. Erase, and have the child give the answer.

Place 2, 3, 5 on the board. Then 2, 3, 6. Let the child give the answer in multiplication.

Write numbers from dictation.

Have all the blocks on the table. Give the dimensions of one certain block as: Find a block two inches high, three inches wide, and 4 inches thick. The child skips and finds the block and says, "This block is two inches high, three inches wide and four inches thick."

The teacher writes column of four figures on board quickly, erases, then calls on individual children to give answer. Proceed in same manner with subtraction, also with the tables.

Give a child a foot ruler or yard stick and let him observe length. Then have him put it aside and draw on the board a line a foot or a yard long.

Have the children draw on the board a six inch square without a ruler, a square foot, a rectangle two inches by four inches, etc.

Have the children estimate the length or width of door, window, desk, height of schoolmates.

Place a number of objects before children. Have them name each quickly.

The teacher draws lines on the board, one under the other, letting the shortest line represent 2c, \$3, 5 in. The teacher names the longest line, or shortest line, the children name the rest.

Rows skip to the table. Find blocks one-half, one-third, one fourth, two thirds, three-fourths, five-sixths, and equal to other blocks.

Give the number of the large block. Have the child tell what the small one would be, and then add the two.

Call the blocks cylinders, squares, triangles, cubes.

The child skips to the table, puts hands behind his back. Place a block in them and he tells what kind of a block it is, as, "This is a cylinder," then holds it up.

In the same way let pupil give the dimensions instead of kind of block.

Draw figures of blocks in a set on the board and letter them as A, B, C, D. Compare them. How many small ones could be made from the large?

Draw figures of blocks on board; give length and width. Have children tell what the perimeter is.

Place rectangles of various commensurate sizes on the board. Give one a certain value, as eight. Have the children give value of others. Have them give values of two or more combined.

Give combinations rapidly 4 7 3 5

8 6 9 4

Table 2's, 3's, 4's.

Tables using $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{3}$, $\frac{3}{4}$. As $\frac{1}{2}$ of 24, of 30, of 18; $\frac{1}{4}$ of 16, of 20, of 28, of 36, of 48, of 44; $\frac{1}{3}$ of 30, of 21, of 15, of 39.

Using blocks give ratios of 1 to 3, 3 to 1, 2 to 5, 5 to 2.

Give the largest block in the set the value 1. Give relative values of others as $\frac{1}{3}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{5}{6}$.

Train the eye to measure inch, foot, yard. Estimate measurements of objects in schoolroom, schoolyard, neighborhood.

Draw lines of different lengths on the board and have the class tell lines that are twice the length of A, $\frac{1}{2}$ of A, etc.

Have class draw with rulers a 5, 10, or 6 inch horizontal line. Also vertical lines of various lengths. Let the pupils erase and try to draw lines of the same length without rulers.

Have the class judge how high the door is, how wide a window or desk is, then let them measure to test results.

Teach dollar and cent signs. Teach pint, quart, inch and foot using measure in each case. Teach children to judge weights of things as to which is heavier, lighter.

Let the children skip to the board and write numbers correctly.

Hold up one block (one of the larger ones of a set) and have children find two or more blocks, the sum of whose volume equals that of the given block.

Assign a value to one block in a set. Have the children give relative values of other blocks.

Have the children give the ratios existing between blocks of the same set. For example, tell one row to get blocks two and three, then $\frac{2}{3}$ is the ratio of this block (holding up small one) to this block (holding up larger one).

Send children to get any block. Have them tell what they have, as "This is a four-inch cube." "This is a six-inch cylinder."

Have children give the perimeters of the various faces of the blocks.

Show children a block. Have them find blocks equal to a certain part of the block, as "Find blocks equal to one-half of this block," or "equal to $\frac{2}{3}$ of this block."

Write simple combinations on the board and have children give the sum.

Have pupils estimate how much water an ordinary pail will hold. With a pint, quart, or gallon measure, test results. Vary this exercise to include other measurements.

Dictate numbers to pupils at the board.

UPPER GRADES

If the work of the lower grades has been done faithfully the children are ready to use the pencil or pen. Give them at first, many abstract problems in

addition, subtraction, multiplication and division, and wherever possible, let the work be done orally. Introduce concrete problems involving all four operations, then teach addition, subtraction, multiplication and division, of fractions, decimals and denominate numbers in the written forms. As this has all been done orally, it will require only a few weeks to master all processes. Continue daily drills and visualizing.

Make the work real in teaching percentage, interest, proportion, discount, taxes, insurance, stocks, mensuration. Let the children dramatize the work, keep store, buy and sell, act as insurance agents, brokers, bankers, commission merchant. Get copies of all forms of business paper, copy and use in actual transactions. Let them measure, estimate, approximate and plan for problems by actual measurements.

LANGUAGE

Describe such objects as cylinder, square, cube, prism, after looking at them. Describe other objects as pitch-pipe, pencils, chalk, ink-well, using the distinguishing descriptive terms belonging to each.

Place a wooden object and a glass on the table. Sound with a ruler, and have the pupils give the adjectives that characterize each sound. Later take a book, the blackboard, a tin can, an eraser, a silver cup. Have the pupil turn his back and as you rap quickly say, "silver, tin, wood," etc., and describe the sound with its own adjectives.

The teacher taps with a pointer on glass, wood, book, blackboard, window, iron-pipes, and the pupils describe the differences in sound.

The teacher says, "I am thinking of a solid that has a curved surface." The pupils answer "cylinder." In the same way the teacher describes many objects.

Tell children to listen. Let them describe the sounds they hear.

Blindfold the child and let him describe the difference in feeling between silk, wool, linen, etc.

Let him describe the cloth, after feeling of it.

Let the child feel of different surfaces. Describe them.

Let the children describe the feeling of different objects. Tell whether they are rough, smooth, heavy, solid, hollow, etc.

Let the children describe the smell of different kinds of fruit brought to class.

Let them smell different spices, vinegar, oil, etc., and describe each with the best possible descriptive terms for each.

Let them taste sugar, spices, salt, vinegar, and describe each sensation.

Let the children find objects in the room that are round, oval, square, oblong.

Put a word on the board. Erase, and have a child skip to the board and write the word. After they are able to visualize words, give them whole sentences.

Have a number of different twigs in the room. Let the children observe and describe them tersely.

Repeat this exercise with spring flowers, with autumn leaves, etc.

Have children close eyes while the teacher rolls hard and soft rubber balls and a wooden sphere. Let them describe the sounds.

Have a number of books of various sizes and thicknesses on the table. The teacher touches three or four books, and the child describes them so as to distinguish each from each.

Teacher describes a number of familiar objects, giving two or three distinguishing facts about each. Have the pupil tell the name of the object described.

Have ten or twelve children stand in front of a table with their hands behind them. Pupil or teacher drops a block into each child's hands, and children tell dimensions of blocks by feeling them. Tell which is heavier, lighter, etc.

Have pupils touch different fruits and describe them.

Touch different objects, as cup, bottle, and describe them.

Touch a child with a pencil, piece of chalk, a twig, a small piece of paper and see if he can tell what it is. Let him describe the different sensations.

Let them touch, taste, and smell different fruits, vegetables, sugar, salt, soda, etc., and describe and characterize each sensation.

Familiarize children with the sound which different objects produce when touched. Then tell them to put down their heads. The teacher touches several things in quick succession as edge of the desk, ink-well, steam-pipe then says, "Wake up." The pupil tells what was done in the right order.

Repeat a short stanza of poetry. Ask the children to repeat what they remember.

COLOR WORK—DRAWING

Hold up colored circles in quick succession. Have pupils name colors in correct order.

Have children stand in a row with colored caps. Pupils at seats close their eyes. Change the order. Have pupils arrange in original order.

Have children stand in a row with colored caps. Pupils at seats close their eyes. Send one or more out in hall. Children tell what colors are gone.

Have colored balls in a row on the table. Pupils close eyes. Change the order. The pupils arrange in original order.

Have children stand in front of board with crayons in their hands. The teacher draws two vertical lines, erases them, and has the children reproduce what they saw. Teacher then draws squares, circles, triangles, and continues as before.

Mount colors on cards and hold before the class. Have pupils tell what they saw. Example: "I saw two red circles, one blue square, and two yellow oblongs."

Find objects in the room that are square. Note objects while going to and from school that are circular, square, oblong.

The teacher prepares squares of one size, and gives one to each pupil. The children note the size and try to draw one of the same size. After they have drawn the squares let them compare them with the given square.

Have them cut oblongs, triangles, circles, in the same way.

MUSIC

Play exercises on the piano in $\frac{2}{4}$, $\frac{3}{4}$, and $\frac{4}{4}$ rhythm, and have the children at the board indicate by marks the exercises played.

Using the 8, 7, 6, 5 in music, point to a group of figures singing as you point, and have the child repeat.

Send three children from the room, and have them sing in turn, while the pupils in the room guess who is singing.

GEOGRAPHY

Have the children collect specimens of the different kinds of soil in the locality. Discuss their formation.

Plant seeds of various kinds and watch their development.

Have experiment gardens both at home and in the school grounds. Watch the growth of various plants. Study and discuss the different parts of the plant.

Collect specimens of the various minerals, rocks, shells, of the locality and discuss their deposition or formation.

Collect specimens of all different kinds of wood, bark, leaves, buds, flowers, of the neighborhood. Mount and arrange the flowers and leaves.

Have colored pictures of all the birds that the children may observe in the spring. Discuss their habits, characteristics, songs, nests. Observe as many as possible each day.

Collect and classify the different grasses and shrubs of the neighborhood. Discuss.

Collect specimens of all raw material and manufactured products of the locality in each of their stages. Discuss.

In studying the physiography of foreign places, collect good pictures, descriptions, and specimens of products of all kinds and mount and classify for class use.

Let the children observe on excursions, all possible land and water forms, soil formations, examples of plant life in connection with the work.

Encourage them to listen and discriminate between the different bird songs, so that they can distinguish each. Have them describe the sound made by the cricket, the frog, the grasshopper, the different kinds of animals, the various sounds of wind, water, etc. Have them describe the weather and conditions of the atmosphere of different days, observed on their way to school. A stormy day. A foggy morning. A frosty morning. Describe the sensations occasioned by

the ground under-foot, by the wind on the face, by the breeze of a spring morning, by the gloom of a late autumn day, by a frosty, clear evening.

Have them observe the position of the sun and moon at different times.

Have them observe the changes in vegetation from week to week, and discuss.

Encourage them to estimate distances. How far is it from the child's home to the schoolhouse? How far is a mile in the neighborhood? Name familiar points that are five miles apart. Two miles apart.

Encourage the reading of the best literary descriptions of all countries studied, so that the children gain good visual images of them. These should be so definite and vivid that when the teacher writes on the board the word "Seine" for instance, the child will instantly describe his imaged conception of the Seine River, Paris, etc. When he sees a pressed specimen of the Edelweiss, he will be able to describe the region of the Alps. "Salt" will bring out a description of the Salt Steppes of Russia and of the climate, social conditions of the people, and other geographical facts. "Wheat" should suggest vivid mental images of all the principal wheatgrowing regions of the world. "Grapes," the vineyards of the Rhine, of France, etc.

Make collections of good pictures of the life and people of the different countries studied; of the scenery, homes, etc.

All available specimens of products of different countries studied should be used in connection with the work.

Fix all visual impressions of the relative location of places, outline, direction, etc., with memory maps.

Have no geography recitation which does not involve observation, and the use of hand, eye and ear, in the formation of images.

Suppose the class is about to study France.

I. Ascertain by observing the map, one in the hands of each pupil: (a) its location; (b) its location relatively to other European countries; (c) its location in regard to climatic conditions of longitude, latitude, elevation from direction of rivers, mountains, winds, distance from the sea; (d) the countries bounding it. What do you know of the people and conditions of those countries? What effect would this proximity have on France, socially, governmentally, commercially.

II. Climate. What effect has its location on the climate? Elevation, winds, ocean, etc.

III. Products, as affected by location, climate and soil.

IV. Occupations, as affected by all these agencies.

V. Commercial facilities, as dependent on rivers, coast, situation.

VI. Look at the outline physiographic map and select points that seem favorable to large cities. Why?

VII. What effect would the position of the mountains have on the climate of the country?

VIII. Make an outline and physiographic map of France.

(a) Write from memory the names of bounding countries. (b) What is the size of France, the relative size. Compare with Michigan, Germany, England, Russia. (c) Ascertain the population. Compare with Michigan. What is the effect of sociologic conditions, as in wages, living, etc.? (d) Read description of life and social conditions of France. (e) Government of France. (f) Occupations and products. (g) Gulfs, rivers, etc. (h) Cities. (i) Use pictures, good descriptions, literature, to form images of the scenery, cities, rivers. (j) Assign topics upon which different pupils will report with accounts of their visual impressions as—Paris, Seine, Gulf of Lyons, etc. (k) Require memory maps of the country including all important details. Bring to the class for observation pictures, products: as raisins, silk, raw silk, velvet, lace, etc.

IX. Let the children plan a trip to France, map out the route, select steamers, purchase tickets, and plan all other details of the voyage.

X. Let some child give a vivid account of the detailed voyage. In this way children who have never been out of their local environments will get an idea of the distance traveled, the places on the way, the people, life, etc., that they would meet, the methods and means of transportation, the number of days it would require, cost of the trip.

Let the children tell what they would bring back from a visit to France. What would they take across to their French cousins?

XI. Let each pupil impersonate a child living in some part of France. Let

him prepare for the part by reading descriptions, examining pictures, etc., and then imagine himself a child busy at some particular occupation in some certain place, and give an account of himself to the rest of the class, supplying all necessary detail to make the description vital and real.

XII. Let the class imagine themselves traveling through France and require each one to give an oral description of what he saw in each place. One will report the pictures in the Louvre; another, a visit to the capital; another, a visit to Bordeaux, etc.

In connection with the various countries studied introduce such sense training exercises as the following:

Blindfold a child and let him feel of various materials as silk, wool, velvet, linen, cotton, rubber, cork, and tell what each is. Blindfold him and let him smell perfume, vinegar, spices of various kinds, fruits, plants, and tell which each one is. Blindfold him and let him taste sugar, salt, spices, vinegar, coffee, and tell which each is. Each time a new word is used write it on the board, erase, and require him to spell it from memory. Let him spell the words orally.

MORALS AND MANNERS

The Golden Rule is the basis of all good manners.

"Manners are something with every one and everything with some."

Since an educated rascal is a much worse enemy to society than an ignorant one, education without morality is a curse. All teaching should therefore possess the vital elements of morality; not that every lesson or day's work should have a moral tacked upon it, but back of the teacher's every look, word and act there should be purity and honesty. Character in the teacher will develop character in the pupil.

Closely allied to good morals are good manners. Indeed, good manners should be the outgrowth of good-will, and no person truly possesses them whose acts do not spring from a kindly heart. Conversely, good manners properly taught the child, react upon his heart and produce a genuine desire to give others no discomfort.

SUGGESTIVE OUTLINE

AT SCHOOL

Entering and leaving room.
Talking about one's self.
Laughing at others.
Treatment of strangers.
Treatment of other's property.
Use of school property.

AT HOME

Treatment of parents.
Treatment of brothers and sisters.
Treatment of servants.
Treatment of company.

AT THE TABLE

Promptness when meals are announced.
Waiting one's turn.
When to begin to eat.
How to eat.
Use of napkin, knife, fork and spoon.
How to ask for food.
Criticism of food.
Conversation—unpleasant subjects.

Leaving table.
Use of toothpick.
Observing well-bred people.

AT ANOTHER'S HOME

How to enter; how to leave.
Removal of wraps.
Introductions—distinct enunciation of names.
Staring, whispering, laughing, etc.
Sitting still.
Attention—in conversation, to reading, to music.
Contradicting.
Making one's self agreeable.

AT CHURCH

Punctuality.
Entering.
Courtesy—to ladies, to strangers.
Whispering, laughing, etc.
Attention to the service.
Notice of those coming in.
Joining in the general forms of worship.

AT ENTERTAINMENTS

Punctuality.
Taking seats.
Gazing about.
Talking.
Interfering with others.
Leaving.

AT THE STORE

Inquiry for articles.
Finding fault with articles and handling of goods.
Courtesy to clerks.

ON THE STREET

Noisy and boisterous conduct.
Accosting people across the street.
Obstructing the sidewalk.
Meeting people—turn to right.
Passing people—turn to left.
Eating on the street.
Throwing things upon the sidewalk.
Looking into windows of houses.
Gentleman walking with lady—upon her left.
Salutations.

TRAVELING

Buying ticket—take turn.
Occupying seats in cars.
Leaving seats temporarily.
Taking seat with another.
Courtesy towards officials and passengers.
Courtesy to ladies.

The above outlines are suggested by "Lessons on Manners," published by Lee & Shepard, Boston. These outlines may be supplemented by others as occasion seems to demand; but when an attempt is made to teach this subject, let it be systematically done and not simply to fill some idle moments. Furthermore, strive to have courteous acts spring from the desire to be kind rather than for the sake of appearance.

GAMES

Prepared by the Department of Hygiene and Physical Education,
Central Michigan Normal School.

Instructions to Teachers

The first five minutes of each of the usual recess periods should be given to a recess proper; the last ten minutes of both morning and afternoon periods should be devoted to the learning of games under the direct supervision of the teacher.

Play during these periods should be compulsory; it is a part of the school work. It should be out-of-doors when the weather permits.

Strict observance of the rules and above all "fair play" in spirit as well as letter must at all times be insisted upon. Remember that development of character in children is more easily secured in their own natural activities than through precept. Emphasize fairness, honesty and generosity in the game until the play group disapproves instantly of all attempts by individuals to secure advantage to self at the expense of fair play.

At the noon period, groups of the larger boys and girls will play, for the most part, without direct supervision, though the presence of a lively teacher entering into the spirit of the younger people, is always welcome and beneficial. Play at noon should consist of games learned previously during the regular play periods. Participation should be voluntary as this is not a part of the school sessions, but gentle pressure should be used to get all to take part. The pale-faced, anaemic girl needs the play more than the most robust boy.

One of the larger pupils of the right personality may be put in charge of a group of the smaller children.

Play in groups of similar age, and, in case of larger boys and girls, of the same sex, is desirable. Often, however, especially when the work is given indoors, it is convenient to have the whole school engage in the same game at the same time. The games described below are so arranged that the teacher can find at a glance the game which is appropriate to the place and group engaged. Teach each game until the children have become fairly skillful in playing it. Most of these games may be varied slightly so as to add new features of increasing difficulty as the children become more skillful. Such variation adds much to the interest of older pupils.

Games selected from the Course of Study will be found to be admirably suited to school occasions to which parents are invited. When mixed programs are rendered in the schoolhouse, a game or two on the program by the smaller children will arouse much enthusiasm on the part of the parents. An out-door program of play just before the closing of school in the spring is desirable. A few counties are bringing all the schools of the county together in a "play festival" held in conjunction with the eighth grade graduating exercises in the spring.

Several of the music selections used in this outline are taken from "Dances of the People" and "Folk Dances and Singing Games" both by Elizabeth Burchenal, New York City.

LIST OF GAMES

I. *Games for the whole school*

1. Without material

a. Playground

- (1) Vis-a-vis
- (2) Squirrel in Trees
- (3) Steps
- (4) Partner Tag
- (5) Lame Fox and Chickens
- (6) Three Deep.

- b. Schoolroom
 - (1) Follow the Leader
 - (2) I say "Stoop"
 - (3) Tag the Wall Relay
 - (4) Going to Jerusalem
 - (5) Changing Seats
 - (6) Guess Who

2. With material

- a. Playground
 - (1) Newcomb
 - (2) Stealing Sticks
- b. Schoolroom
 - (1) All Up Relay
 - (2) Club Snatch

3. With Singing

- a. Playground
 - (1) Carrousel
 - (2) Broom Play
 - (3) Pop Goes the Weasel
 - (4) Visiting
- b. Schoolroom
 - (1) Up to the Moon (Swedish)

II. *Games for the Smaller Children*

- 1. Playground
 - a. Jack Be Nimble
 - b. Shadow Tag
- 2. Schoolroom
 - a. Wee Bologna Man
 - b. Cat and Mice

III. *Games for the Larger Girls*

- 1. Playground
 - a. Prince of Paris
 - b. Corner Ball
- 2. Schoolroom
 - a. Poor Pussy
 - b. Bean Bag Game

IV. *Games and Athletics for the Larger Boys*

- 1. Playground
 - a. Games with the Baseball
 - b. Track and Field Athletics
 - c. Chinning
 - d. Bull in the Ring
 - e. Trades
- 2. Schoolroom
 - a. Japanese Crab Race
 - b. Stride Ball

V. *Rhythmic Plays for the Whole School*

- 1. On the Green
 - a. Ribbon
 - b. Bumble Bee
 - c. May-Pole.

I. *Games for the whole school*

1. Without material

a. Playground

(1) Vis-a-vis (pronounced vez-a-vee)

Number of players: 7 or more.

Formation: Players stand in a double circle with a partner, each one facing the center and an extra player, who is "it," standing in the center.

Game: "It" calls "Face to face," and each player faces partner. Then "it" calls "Back to back," and each player turns with back to partner. "It" may continue these calls as rapidly and as long as he cares to. Finally he calls "vis-a-vis," which is a signal for all to change partners. During this time the person in the center secures a partner, and the one left out becomes "it." The game continues as before.

(2) Squirrel in Trees

Number of players: 9 or more.

Formation: Three players make a "tree" by standing in a circle with arms on each other's shoulders. Any number of "trees" may be scattered over the field of play. A "squirrel" stands in the "hollow" of each tree, and an extra "squirrel" stands anywhere within the field of play.



SQUIRREL IN TREES.

Game: The "squirrels" run from one "tree" to another (there must never be more than one "squirrel" in a "tree") and the extra "squirrel" tries to find a hollow tree." The "squirrel" left out must then look for a "hollow tree." The "squirrels" and the "trees" need to exchange places often in order to give all an opportunity to run. If the "squirrels" are afraid to leave home, the teacher may force them out by clapping her hands or by giving any signal agreed upon before the game.

(3) Steps

Number of players: 3 or more.

Formation: In a line facing a fence or anything which may be chosen as a goal. A leader (or "it") stands between the line and the goal, facing the goal.

Game: The leader covers his eyes and counts aloud to ten (or twenty). During this time the players move as rapidly as they can toward the goal. When the leader calls ten, uncovers his eyes and turns around, every one in the line must be perfectly quiet. If he discovers any one moving, that person must return to position and start over again. The game continues until all the players have reached the goal. The first person reaching the goal is declared the winner, and the last person reaching the goal must be "it" for the next game.

(4) Partner Tag

Number of players: 4 or more.

Formation: Players scattered over the field in couples, arms locked. Two players are free, one for "it" or the chaser, and the runner.

Game: The runner makes himself safe by locking arms with any one of the players. Whenever he does this, the third one in the group immediately becomes the runner, and must save himself in the same way. In case the runner is caught, he must then become the chaser; and the chaser becomes the runner.

(5) Lame Fox and Chickens

Number of players: Any number.

Formation: At one end of the playground a den is marked off for the "foxes," and at the opposite end a yard is marked off for the "chickens." The game starts off with one fox in the den, and all the chickens in the yard. If there are a great many players, it is advisable to have more than one "fox."

Game: The "chickens" leave their yard and approach the den of the "fox." As they draw near the den, they try to tease the fox by calling: "Lame fox! Slow fox! Can't catch anything." The "chickens" venture as close to the den as they dare to, the "fox" remaining within until he thinks he can catch a "chicken." When the "fox" leaves his den he may take three running steps in pursuit of the "chickens," after which he must hop on one foot while tagging the "chickens." If the "fox" succeeds in catching any "chickens" they immediately become "foxes," and

the game starts again. Any "fox" putting both feet on the ground at once, after he has taken three running steps, may be driven back to his den by the "chickens." He may, when hopping, change from one foot to the other. The game continues until all the "chickens" are captured, the last one being the winner. The first "chicken" caught becomes the "fox" for the new game.

(6) Three Deep

Number of players: 6 or more.

Formation: Players stand in couples, one behind the other, in a circle, all facing the center. There should be considerable space between the couples. Two extra players, one as runner, one as catcher, stand within the circle.

Game: The runner and the catcher start the game off. The runner makes himself safe by standing in front of one of the couples. When the runner takes this position one group is then standing "three deep," and the *third one* must run from this position before he is tagged by the catcher. The runner makes himself safe again by stepping in front of a couple. If the catcher tags the runner, then the runner becomes the catcher, and the catcher, the runner.

This game may be varied by having the couples stand facing each other. In this formation, the runner makes himself safe, by standing in front of any player he may choose. The instant a player discovers some one standing in front of him, he must "save himself" by standing in front of any other player.

b. Schoolroom

(1) Follow the leader

Number of players: Any number.

Formation: In a single line around the room

Game: The leader marches around the room, hops on one foot, jumps over a crack in the floor, touches some object as he passes, or performs any gymnastic stunt he cares to do. Each person in the line must imitate him exactly. It is better to change leaders often, choosing the child that executes the best, the teacher acting as the judge. The game may continue as long as desired.

(2) I Say "Stoop!"

Number of players: Any number.

Formation: Standing in aisles facing toward the front.

Game: A leader stands in front of the room and calls "I say stoop!" and at the same time bending knees, and immediately coming to position again. All players follow the leader's directions. When the leader calls "I say stand!" and stoops as before the children should remain standing. Those making a mistake are out of the game. Much interest may be added by having "sides," the one winning which loses the smaller number of players.

(2) Tag the Wall Relay

Number of players: 4 or any even number above four.

Formation: Sitting in the seats, an even number of players in each row.

Game: At a signal from the teacher, each player in the last seat runs forward, down the aisle, and tags the wall in front. As soon as he passes out of the aisle, all the other players move to the seat behind, thus leaving the front seat vacant. As soon as the runner touches the wall in front, he runs back and sits down in the front seat. Immediately he raises his hand, which is the signal for the last player in the row to run forward in the same manner as the preceding one. Play continues in this way until each person in the row has had an opportunity to run. The line wins, whose players first reach their original seating positions.

This is a popular game and interest may be added by dividing the players into teams, and playing a series of games. In arranging the players for running, care must be taken to have players of equal ability, opposing each other.

(4) Going to Jerusalem

Number of players: 7 or more.

Formation: Standing in aisles in position for marching. The group should be arranged in such a manner, that there is one less seat than players. The seats counted out may be designated by placing a book or any object on the desk.

Game: The players march up and down the aisles between the seats. The teacher claps her hands which is the signal for every player to sit in a seat. One player will be left out, and he must go and sit down. Then another seat is counted out, the desk marked, and the game starts again. If time will permit, it is much sport to continue the game until there are two players marching around one seat. The one securing the seat this last time is declared the winner. If two players, at any time, sit in the same seat, the one securing the seat first, holds it. Music for the marching will add much interest to this game. When the music stops, that is the signal to find a seat.

(5) Changing seats

Number of players: Any number.

Formation: Sitting in the seats.

Game: The teacher must give directions in this game. After the children have learned the game some one from the grade may be chosen for the teacher. The commands are as follows:

"Change right!"

"Change left!"

"Change forward!"

"Change backward!"

Each time a row of children will be left out. They may remain standing in the aisle until a command comes which will allow them an opportunity to sit down or they may run around to the opposite side

of the room and take the vacant seats. The success of the game depends entirely upon the commands from the teacher. If these commands are given rapidly and with unexpected changes the game will be most interesting.

(6) Guess Who

Number of players: 4 or more.

Formation: Standing in a line, side by side, with the leader in the middle and an odd player in front of the line, facing it.

Game: The player in front asks:

"Where is my friend?"

The players in the line answer:

"We don't know."

The player in front asks:

"Will you go and find him for me?"

The players in the line answer:

"Yes, we will."

The player in front says:

"Place your finger on your lips and follow me."

The player in front then turns around, and, with his finger to his lips, runs to another part of the room. All the other players follow him, each one with finger to his lips. When the line has reached some other part of the room, the odd player stops with his back to the line. Immediately, the players in the line exchange places (under the direction of the person in the middle of the line) so that the relative positions are not the same as at the beginning of the game. The leader selects a player from the line and this player steps up behind the odd player and says (assuming an unnatural tone): "Guess who is here!" If the odd player guesses correctly he returns to the line and the player from the line becomes "it." Otherwise the odd player must repeat the dialogue, and continue the game as in the preceding case.

If the children find it difficult to guess correctly at first, they may be given two or three "guesses," until they are accustomed to the game.

2. With material

a. Playground

(1) Newcomb

Number of players: 10 or more.

Material: A small rope thirty to fifty feet long, and a basket ball.

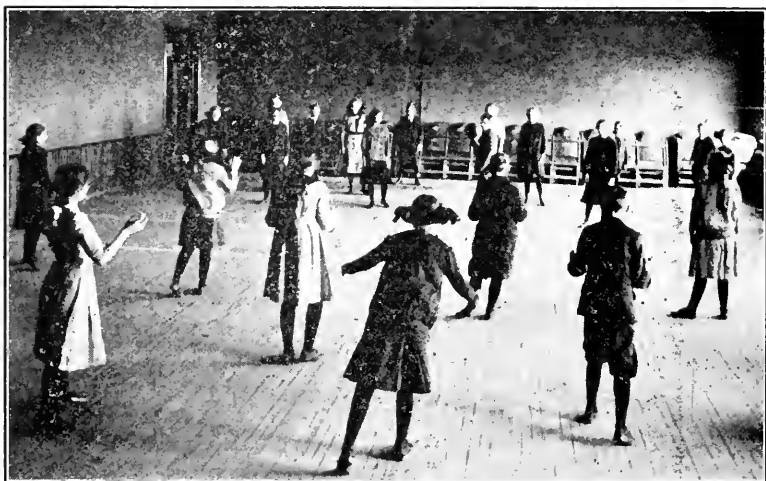
Field of play: A rectangular space. Draw two lines two or three feet each side of an imaginary center line. The space included between these lines is neutral territory. Stretch the rope above the center line, being careful that it is at least one foot higher than the tallest player.

NEWCOMB.

Game: The ball is put in play by tossing it up between two players, one from each team. As the ball comes down, each one tries to bat it with the open hand. The successful one wins the first throw for his team. Each side tries to score a point by throwing the ball over the rope in such a manner that it will strike the ground in the opponent's territory. Each team tries to catch the ball before it strikes the ground, and thus prevent the opposing team from scoring. The side scoring the first ten points wins the game. Much interest may be added by playing a series of games.

The following count as fouls and score one point each for the opposing team.

1. The ball passing under the rope.
2. The ball touching rope as it passes over.
3. The ball falling on the neutral ground after passing over the rope.
4. A player stepping on neutral ground when throwing or receiving the ball.
5. The ball striking outside the field of play before any player has touched it.



(2) Stealing Sticks

Number of players: 6 or more.

Material: Six or eight sticks. Handkerchiefs to mark the players of one team.

Field of play: Divide the playing space by a line in the center, and mark off a goal at each end of the field. Place half the number of sticks used in each goal.

Formation: Players form in two rows facing each other, one row on each side of the center line. The object of the game is to carry, one at a time, all the sticks from the opponent's goal and place them

in the home goal. As soon as a player crosses the line with both feet, he may be tagged by any player from the opposing team. If he reaches the opponent's goal in safety he may take one stick and return to his home goal unmolested. If caught before reaching the goal, he becomes a prisoner and is placed in the opponent's goal where he must remain until released by a player from his side. The rules governing the carrying of sticks also govern the releasing of prisoners. So long as any member of one side is a prisoner, that side may not take sticks from its opponent's goal. The game is won by the side which first succeeds in carrying away all of the sticks from the opponent's goal.

b. Schoolroom

(1) All Up Relay

Number of players: 4 or any even number.

Material: Six small sticks of wood, which have been cut squarely in order that they will stand on end without support.

Formation: Two parallel lines facing toward the front, players standing one behind the other. At an equal distance from the head of each line, draw two parallel chalk circles. Within one circle stand three sticks. Directly in front of each leader, and the same distance from the upright sticks, draw a chalk line which all players must stand behind until they have been "touched off."

Game: At a given signal, each leader runs forward to the sticks, and picking them up, one at a time, he transfers the sticks from one circle to the other. As soon as the last stick is in position, he calls "All up," runs back to his line and "touches off" number 2 by slapping the palm of number 2's outstretched hand. Number 2 then runs forward and, one at a time, transfers the sticks in the same manner that number 1 did. As soon as number 1 "touches off" number 2, number 1 passes to the foot of the line. The game continues until every one in the line has had an opportunity to transfer the sticks from one circle to the other. The side finishing first wins the game. If the sticks are knocked down, or if they fall down, they must be placed upright before the next player can start.

(2) Club Snatch

Number of players: 4 or any even number.

Material: Indian club or a small stick of wood which will stand upright. Sometimes a handkerchief is placed on top of the Indian club or the stick of wood, and it is "snatched" instead of the club.

Formation: Two lines, players standing side by side, and each line equally distant from the club.

Game: At a signal given by the teacher, number 1 from each line runs up to the club, tries to snatch it and endeavors to run back to his own line before the other number 1 can tag him. If he succeeds in doing so, he scores one point for his side. If he is touched by the one from the opposing team, then the opposing team scores a point. Play continues in

this way until all have had a chance to snatch the club. The side having the greatest number of points, wins the game. It is important in lining up the teams, to have players of equal ability, opposing each other. When there are *many* players, interest is added by dividing each team into three or four groups,—the total score of the various groups making up the score of the team.

3. With Singing

a. Playground

(1) Carrousel (Merry-Go-Round)

Number: Any even number.

Formation: Double circle, all facing center. Inside circle join hands. Outside people place hands on partners' hips.



CARROUSEL (MERRY-GO-ROUND).

Part I. First measure—1. Make a long slide to left with left foot; 2. Close right foot to left; 3 and 4. Repeat. Repeat all to the 6th measure; during 6th and 7th measure make stamps instead of slides, 2 to a measure. Stamp on the words "up," "mate," "surely," "late."

Part II. Continue sliding to the left as before but in quicker time.

Note: In repeating, each person from the inside circle passes to the outside circle. To be played vigorously to imitate, as much as possible the swing of the Merry-Go-Round.

CARROUSEL (MERRY-GO-ROUND).

A Moderato con moto ($\text{♩} = 84$)

Pret-ty maid-en, Sweet and gay, Car-rou-sel is run - ning,

It will run till eve - ning: Lit-tle ones a nick - el, Bi-gones a dime. Hur-ry

B Faster ($\text{♩} = 108$)

up! Get a mate! Or you'll sure-ly be too late! Ha ha ha!

Hap-py are we, An-der-son, and Pe-ter-son, and Lünd-ström, and me!

(2) Broom Play

Number: 5 or any odd number.

Formation: In two lines with hands joined. An extra player stands between the lines, with a broom in her hands.

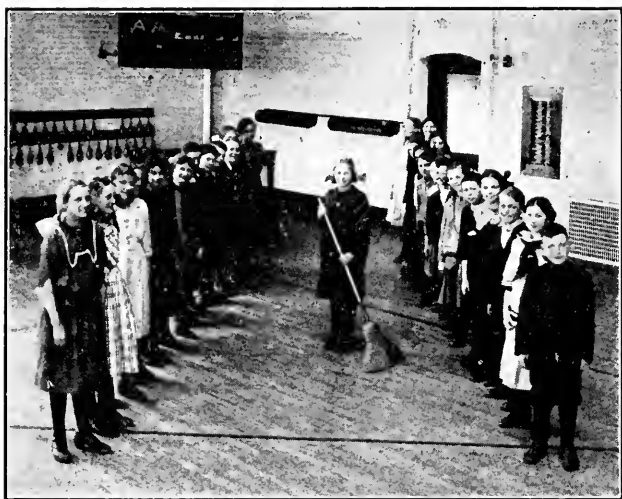
Part I. With four walking steps each line advances toward the opposite line. Measures 1 and 2.

Part II. With four walking steps each line moves backward. Measures 3 and 4.

Part III. Repeat I and II. Measures 5 to 8. During this time the player between the lines moves forward and backward looking for her partner.

Part IV. All players skip forward to join hands with partner, and skip around in a small circle. The "broom man" tries to steal a partner. The player left out must play with the broom.

B. Measures 1 to 8. Repeat entire play as often as desired.

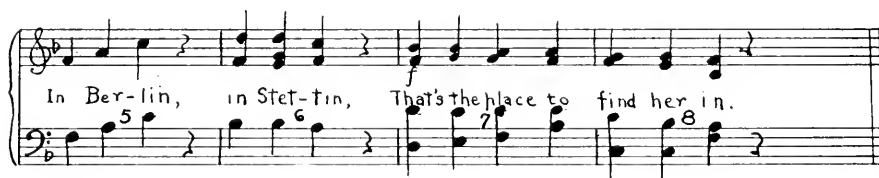
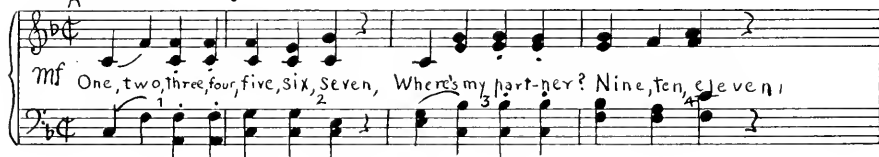


BROOM PLAY.

BROOM PLAY.

Allegro ($\text{♩} = 96$)

A

*Con spirito*

D.C.

(3) Pop Goes the Weasel

Number: 6 or any multiple of six.

Formation: In two lines facing partners. Numbered off by 3's.

Words to sing: A penny for a spool of thread,
A penny for a needle;
That's the way the money goes,
Pop goes the weasel.

POP GOES THE WEASEL



Part I. Each number 1 turns toward the outside and skips down back of his line and returns to his place. 16 counts.

Part II. Each number 1 joins inner hand with partner and together they skip down between the lines and back again. 16 counts.

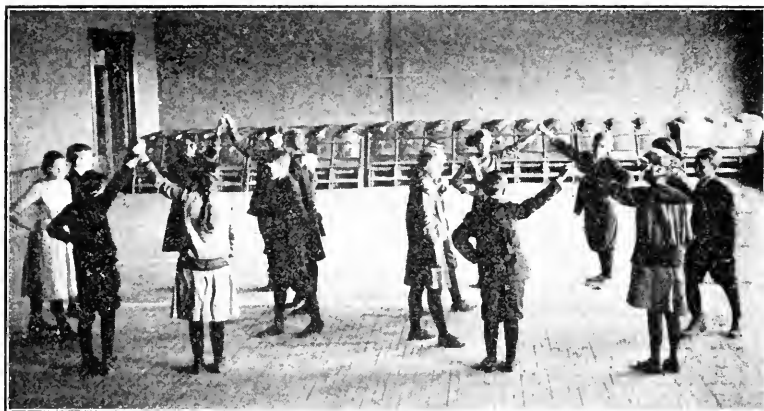
Part III. Couple number 1 now forms a circle of 3 by joining hands with number 2 on the left, and all skip around for 12 counts. This should bring number 2 opposite her own place. As the children sing the last line "Pop Goes the Weasel," couple number 1 raise joined hands and number 2 passes under their arms to her place in the line. Couple number 1 repeats the circle of 3 with the other number 2, and also with each number 3. This brings couple number 1 to the foot of the lines. Couple number 2 repeats the play, then couple number 3.

When the player passes under the raised arms at the word "pop," all the other players, who are standing in line, clap hands together and jump sideward toward the front.

(4) Visiting

Number: 8 or any multiple of eight.

Formation: In couples forming a square as shown in the cut. Inside hands joined.



VISITING PLAY.

Part I. Beginning with the right foot, couples number 1 and 2, advance toward each other three steps, and bow. Measures 1 and 2.

Part II. Beginning with the left foot couples number 1 and 2 retire with 3 steps and bow. Measures 3 and 4.

Part III. Couples number 1 and 2 repeat I and II. Measures 5 to 8.

Part IV. Couples 3 and 4 execute I, II and III. Measures 1 to 8, repeated.

Part V. Couples 3 and 4 form arches by joining inside hands. Couples 1 and 2 advance toward the center (with a skipping step) join inside hands with the persons they meet from the opposite side (the boy turning left, the girl turning right) and pass under the arches. Immediately, they separate to right and left and return to partners. B. Measures 1 to 4.

Part VI. Still skipping, join hands with partner and swing around vigorously in a circle. B. Measures 5 to 8.

Part VII. Couples 1 and 2 form arches while couples 3 and 4 execute V and VI.

b. Schoolroom

(1) Up to the Moon

Number: 2 or any even number.

Formation: Standing in the aisles in couples, number 1 in front with hands on the hips, and number 2 behind number 1 with hands on the shoulders of number 1.

Words to sing:

Guess where I would like to go, like to go, like
to go,
Up to the moon in a bright rainbow,
Up to the moon in a rainbow.
Yes, yes, that would be
Great, great fun for me,
That would be great fun for me
To go up to the moon in a rainbow.

VISITING PLAY.

Musical score for "Visiting Play." The score is written for piano and voice. It features a key signature of two sharps (F# and C#) and a 2/4 time signature. The melody is in the treble clef, and the accompaniment is in the bass clef. The score is divided into three systems. The first system is labeled 'A' and contains the lyrics: "Oh how do you do? I'm very glad to see you I thank you, I'm". The second system is labeled 'B' and contains the lyrics: "Very well today. Tra la la, la la la". The third system contains the lyrics: "4. 5. 6. 7. 8.".

UP TO THE MOON.

Musical score for "Up to the Moon." The score is written for piano and voice. It features a key signature of two flats (Bb and Eb) and a 2/4 time signature. The melody is in the treble clef, and the accompaniment is in the bass clef. The score is divided into two systems. The first system contains the lyrics: "1. 2. 3. 4. 5. 6. 7. 8.".

Part I. Number 1 turns her head to right, while number 2 looks over her right shoulder into the face of number 1. 2 measures. Repeat turning to left. 2 measures.

Part II. With a jump both turn to the left, facing in the opposite direction. Repeat 1, number 2 taking the part of number 1 and number 1 taking the part of number 2. 4 measures.

Part III. With a jump number 2 turns around and faces number 1. Both, with heels together and hands on hips, make a bow. 1 measure. Clap hands together 3 times in front of face. 1 measure. Repeat. 2 measures.

Part IV. Hold up right forefinger (left hand under right elbow) and make 3 threatening gestures toward partner. 1 measure. Change position of hands and repeat. 1 measure.

Part V. On the 15th measure all swing around toward the left, clapping each other's right hands while passing, at the word "up." Finish the turn with two stamps on "rainbow."

Part VI. Take the same position as in I and repeat the play.

II. *Games for the Smaller Children.*

1. Playground

a. Jack Be Nimble

Number of players: Any number.

Material: Any object six or seven inches long, that will stand upright like a candlestick.

Formation: Players stand in a line ready to run forward and jump over the "candlestick."

Game: Player number 1 runs forward and jumps with both feet at once over the "candlestick," while all the players repeat the rhyme:

"Jack be nimble,
Jack be quick,
Jack jump over the candlestick."

Play continues in this way until each one has had an opportunity to jump.

b. Shadow Tag

Number of players: 4 or more.

Formation: Each player to stand alone anywhere within the playing space, one player to be "it."

Game: "It" tries to step or jump on the shadow of some other player. When he is successful he calls out the name of the player and that person becomes "it." The game may continue as long as desired. Small children delight in this simple play. A sunny day is the only requisite for the game.

2. Schoolroom

a. Wee Bologna Man

Number of players: 3 or more.

Formation: Standing in the aisles facing toward the front of the room. Number the lines from right to left.

Game: The first person in line number 1 steps out in front of the players and repeats the following verse:

"I'm the wee Bologna Man,
Always do the best you can,
To follow the wee Bologna Man."

While repeating this verse he takes some exercise, which all the children can imitate in place. For example, he may jump and turn around twice in place, hop on one foot, hop on both feet, swing the arms like a windmill, or do any gymnastic exercise. As soon as he has finished he runs to the foot of his line, and the leader from line number 2 steps out in front and conducts the play. The game continues in this way until the time is up, each leader following rapidly the one preceding him. The leaders must be alert every minute to make the game a successful one.

b. Cat and Mice

Number of players: 3 or more.

Formation: One player must be chosen for the "cat." All others remain sitting.

Game: The "cat" hides under the teacher's desk. When the "cat" is out of sight the teacher signals to the children and they creep quietly up to the desk. When all of them are near enough to place a hand on the desk, they try to scratch on it in a way that represents the nibbling of mice. When the "cat" hears the "mice" nibbling, she scrambles out and tries to catch them. The "mice" make themselves safe by running to their seats. If the "cat" catches a "mouse" the "mouse" becomes the "cat" and the play is repeated. If no "mouse" is caught the same "cat" may hide again or the teacher may choose a new "cat." If there are more than ten "mice," it is better to have half of them play once and then the other half play once.

III. Games for the Larger Girls

1. Playground

a. Prince of Paris

Number of players: Any number.

Formation: Sitting on the ground in a line, or standing in a line. A leader standing in front.

Game: The leader starts the game by saying: "The Prince of Paris has lost his hat. Did you find it, Number 3, Sir?" If sitting (if standing, number 3 simply steps forward) number 3 immediately jumps to her feet and responds:

"What, sir! I, sir?"

The leader responds:

"Yes, sir! You, sir!"

Number 3 responds:

"No, sir, not I, sir!"

The leader asks:

"Who then, sir?"

Number 3 answers:

"Why, number 6, sir."

Number 6 immediately jumps to her feet and responds:

"What, sir! I, sir?"

The leader answers:

"Yes, sir! You, sir."

Number 6 says:

"Not I, sir."

other section from intercepting it or gaining possession of it by picking it up from the ground after a muff. When the other side gets the ball they are to try and prevent the side which first had the ball from regaining possession of it.

b. Track and Field Athletics

The following "Track and field" events are some of those which occur in all high school meets and in County Field Days, held in some counties in connection with the eighth grade graduating exercises. Every rural boy who hopes to attend a high school and all others should be interested in finding what he can do in these events.

(1) Standing Broad Jump

Material: Piece of two-by-four wood.

Place a piece of two-by-four wood in the ground on a level with the surface. Jumper must stand upon this. Bend at the knees, draw the arms back, then throw the arms forward at the same time springing forward with all the might, knees drawn up as far as possible while in the air.

To get the distance, measure from the nearest edge of the two-by-four to where feet or body touched the ground.

The ground where the jumper is to land should be softened by digging with the spade, unless it is already quite soft.

(2) Running Broad Jump

Same as above with a running start.

(3) Standing Hop-step-and-jump

Take same position as in broad jump. Hop forward, landing on the left or right foot, instantly step forward landing on the opposite foot, and then jump forward landing on both feet.

The hop-step-and-jump is continuous.

Measure the same as in the broad jump.

(4) Running Hop-step-and-jump.

Same as above, but from a running start.

(5) Running High Jump

Material: Two strips of wood two inches wide and six feet long. Drive these upright into the ground six or eight feet apart. Every two inches bore holes in them the size of a large nail, starting about two feet from the ground and going to a height of about five feet. Get a light pole about ten feet long. Place a nail in the holes of each upright at a low height on the opposite side from which the jumper starts. Across these nails lay the pole. The jumper may run at an angle from the right side. When about two feet from the pole, he should leap from the left foot, throwing his right foot up and over the pole, followed by his left, and landing on his right foot.

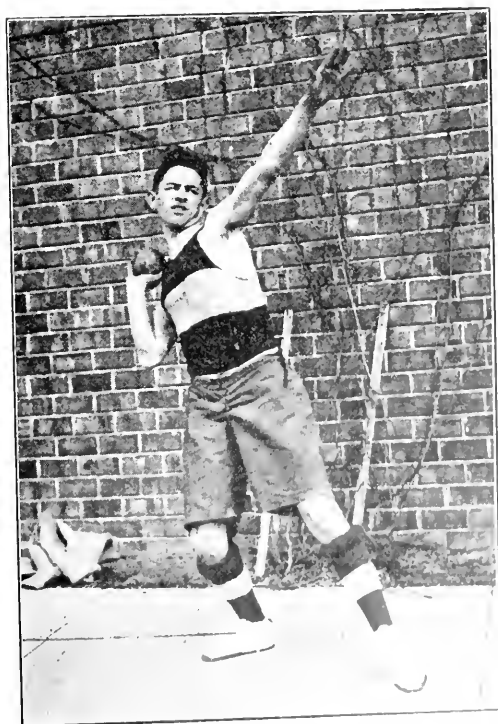
This may be done the same way from the left side, in which case the jumper should leap from the right foot, or it may be done by running straight at the pole and bringing the knees up as high as possible after leaping from either foot.

(6) Standing High Jump

Stand with the right or left side to the bar, lean slightly toward the bar, and leap as in the running jump, throwing the arms upward and backward with tremendous force.



RUNNING HIGH JUMP.



SHOTPUT, FIRST POSITION.

The leader asks:

"Who then, sir?"

Number 6 responds:

"Number 2, sir."

Number 2 immediately jumps to her feet and the conversation is repeated. The leader endeavors to repeat the first statement, "The Prince of Paris has lost his hat," before the last number called can reply, "What, sir! I, sir?" If she succeeds, she may exchange places with the person found "napping." If any player forgets the response, the leader may exchange places with her.

b. Corner Ball

Number of players: 8 or more.

Material: Basket-ball. Handkerchiefs to mark the players of one team.

Field of Play: A space twenty-five by thirty feet is a good one for this game, although one smaller or larger may be used. This is divided across the center by a straight line. In the far corners of each half a small square goal is marked out, there being two goals in each half.

Formation: The players divide themselves into two teams and each takes position on one side of the field and stations a goal man in each goal on the opposite side. The players may go any place within the limits of their own court except in the opponent's goals, but will see that the opponent's goals are well guarded.

Game: The ball is put in play by tossing it up the same as in Newcomb. The object of the game is to throw the ball across to the goal men stationed in the opponent's territory. A point is scored each time a goal man succeeds in catching the ball. The goal men must always keep both feet within the goal, but are allowed to jump up to catch the ball.

The following fouls should be called:

1. Running with the ball.
2. Striking or touching the ball when it is in the hands of a player.
3. Any rough play.
4. Stepping out of the field of play with one or both feet.

The penalty for a foul is forfeiting the ball to the opposite side.

When the ball leaves the field of play it must be carried to the place where it crossed the line, and from this point thrown to a guard before it can be thrown to a goal man.

2. Schoolroom

a. Poor Pussy

Number of players: 3 or more.

Formation: One player is chosen for "Pussy," and all the others sit anywhere in the room.

Game: "Pussy" steps up in front of a player, and kneels. In this position she me-ows as many times as she cares to, and with as many variations in voice and manner as she chooses. The player sitting must stroke "Pussy" on the head three times and say as she pets her, "Poor Pussy!" "Poor Pussy!" "Poor Pussy!" This must all be done without smiling. If the player smiles while she is petting "Pussy," she must exchange places with her. If "Pussy" does not succeed in making the player smile then she must pass on to some one else

and repeat the play. This simple game is very amusing and always affords much sport.

b. Bean Bag Game

Number of players: 4 or any even number.

Material: Four sticks that will stand upright, and two bean bags.

Formation: The players stand in two lines, each line equally distant from two sticks, which stand upright about eight inches apart. The players should be at least ten feet from the sticks, and a line should be drawn on the floor, back of which the players must stand to throw.

Game: Each player is given an opportunity to slide the bean bag on the floor in such a way that it will pass between the sticks without knocking them down. The player scores one point for her side whenever she is successful. The total number of points determines the score for each team.

IV. *Games for the Larger Boys*

1. Playground

a. Baseball

(1) How to Catch a Ball

A ball that comes to a catcher as high or higher than the breast should be caught by the hands in the following position: Turn the hands so that the thumbs are on the inside with the fingers pointing upward. For lower balls, place the little fingers together, all fingers pointing toward the ground.

(Throwing and Catching)

Material: A baseball.

Place the boys in two lines facing each other at least 50 feet apart. First boy in line number one throws a ball to the boy opposite him in line number two, and he returns it to boy number two in line number one, and so on.

Make the throw accurate and be sure to catch the ball correctly.

(3) Touching the Runner

Place the boys in lines in front of a leader. Leader goes through the motion of throwing a ball at them. They all go through the motion of catching the ball and touching the ground with it.

- (a) On the left side
- (b) On the right side
- (c) In front.

After touching the ground, each player goes through the motion of returning the ball to the leader.

(4) Go through the same motion individually with a real baseball

(5) Keep Ball

Material: Baseball.

Divide the boys into two sections equal in number. The members of one section take the ball and run around throwing it back and forth to each other, trying to keep throwing the

(7) Putting Shot

Materials: A stone as nearly round as possible and weighing about eight or ten pounds. Draw a circle seven feet in diameter.

Boy takes the stone in his hand, holding it as near his shoulder as possible and stands near the back of the circle.

To put the stone, the boy takes two small hops forward, with one leg ahead of the other and pushes the stone outward and upward to as great a distance as possible without stepping out of the circle. A right handed boy should hop on the right foot, with left leg in advance and stone in right hand. At the moment of his "put," however, he should swing the



SHOTPUT, DELIVERY.

right hand and the right foot around far in advance of left hand and foot. After putting the shot, the boy must walk out of the back half of the circle, otherwise the throw does not count.

Measure from where the stone strikes to the nearest part of the circle.

(8) Sprinting

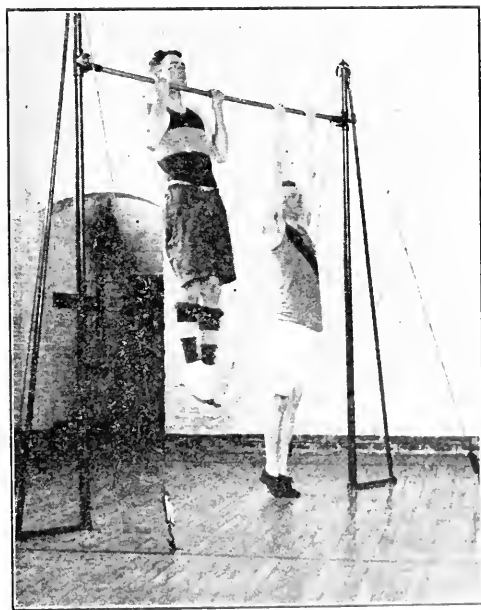
Draw a line across the road. At the words, "Get on your marks," each boy who is to run takes his place, one foot about eight inches from the line, the other about fourteen inches behind that, hands touching the line, and knees bending, with one knee on the ground. "Get set" means for each to raise the knee from the ground, look straight down the track and

be ready to go at the signal. At the clap of the hands they are off, each trying to win by being the first to cross a certain line down the road.

c. Chinning

Material: Find a place higher than the boy can reach from the ground, but one which he can jump up and hold on to; as, limb of a tree, or door casing.

Jump and grasp limb with both hands, turning the palms toward the face, keeping the feet together. Raise and lower the body, alternately, touching the limb with the chin and straightening the arms as many times as possible without touching the ground with the feet.



CHINNING.

d. Bull in the Ring

Number of players: 8 or more.

Formation: In a circle with hands joined, the "bull" standing within.

Game: The "bull" tries to break through between the players in the circle, while all try to prevent him by holding strongly with the hands. When the "bull" succeeds in breaking through, all give chase and the one catching him first becomes "bull" for the next time.

e. Trades

Number of players: Any number.

Formation: Two teams, each standing back of a goal line. The goal lines may be any distance apart.

Game: After deciding how to represent some occupation, group number 1 advances toward group number 2, saying:

"Here are some men from Botany Bay

Got any work to give us today?"

Group number 2 asks:

"What can you do?"

Group number 1 responds:

"Anything."

Group number 2 says:

"Set to work then!"

Immediately group number 1 begins pantomimic motions which are characteristic of the occupation they have chosen to represent. Group number 2 guesses what the motions indicate. If they guess correctly, then they may have an opportunity to represent some trade. Should group number 2 fail, then group number 1 has another trial. The instant a group guesses correctly, they may tag the players in the opposite group, and if any of them are caught before reaching their goal line, they must join the opposite group. The side winning all of the players is victorious. Much interest is added to the game when occupations are chosen which include *many* distinct movements.

2. Schoolroom

a. Japanese Crab Race

Number of players: Any number.

Formation: Arranged in a position to run backward on hands and feet, ("all fours"), with heels on a line.

Game: At a signal all the "crabs" start, each one trying to reach the goal line first. If there are players enough to have teams, much sport is added if the game is conducted as in club snatch. For example, allow four players to race at a time, two from each side. The ones crossing the goal line first and second, each scoring a point for his team. This game affords much fun for all, participants and observers.

b. Stride Ball

Number: 6 or more.

Material: A baseball or a basketball.

Formation: The players stand in two lines with feet apart.

Game: At a given signal player number 1 from each line starts the ball rolling down the line between the feet of the players. When the ball reaches the last player, he runs with it to the head of the line, and starts it down again. Play continues in this way until the first player of one line reaches his original position. This determines the winning team.

Should the ball stop at any time, or roll out between the feet, the player before whom this occurs must leave the line, get the ball, and start it on again.

V. *Rhythmic Plays for the Whole School*

I. On the Green

a. The Ribbon

Number: 12 or any multiple of twelve.

Material: A ribbon for each participant. A strip of paper cambric a yard long, and three or four inches wide, serves the purpose very well.

Formation: Partners facing in two lines. The couples are numbered from the front 1, 2, 3, 4, 5, 6. Hands joined by means of the ribbons.



RIBBON PLAY.

Part I. With four sliding steps the odd couples slide under the arms of the even couples, and at the same time the even couples take four sliding steps toward the odd couples. Reverse the movement. Repeat all from the beginning. 8 measures.

Part II. Couples 1 and 2 join right hands across in pin wheel fashion. Couples 3 and 4, 5 and 6 form in the same position. (Shown in the picture.) With eight skipping steps move around in a circle, at the same time waving ribbons in the opposite hand. Change hands and skip back to original position.

Part III. Couple number 6 forms an arch by joining hands across, while all other couples face toward the front, turn away from partners, and skip around to the end of the line and under the arch formed by couple number 6. As soon as all couples are in original places, couple number 6 slides down the middle to the end of the line and becomes couple number 1. This changes the number of each couple, and the dance may be repeated in this new formation.

RIBBON PLAY.

Allegro (d=100)

f

mf

cresc.

FINE

D.C.

b. The Bumble Bee

Music: Any schottische.

Number: 4 or any multiple of four.

Formation: Front line of fours with hands joined.

O X X O O-Girl, X-Boy.

Part I. Starting with the right foot, take three running steps forward and hop on fourth count, with left leg extended forward. Repeat starting with the left foot. Make a quarter turn (dropping hands) left and hop, step back and hop, step

back and hop, step back and hop. Repeat until original position is reached.

Part II. Schottische step forward, starting with the right foot. Repeat starting with the left foot. Step and hop, step and hop, step and hop, step and hop. On the four steps and hops, the two boys drop hands, and pass around girl as she turns under upraised arms. Repeat three times.

Part III. Repeat I and II.

Note: Schottische step,—three running steps forward and hop on fourth, with leg extension forward.

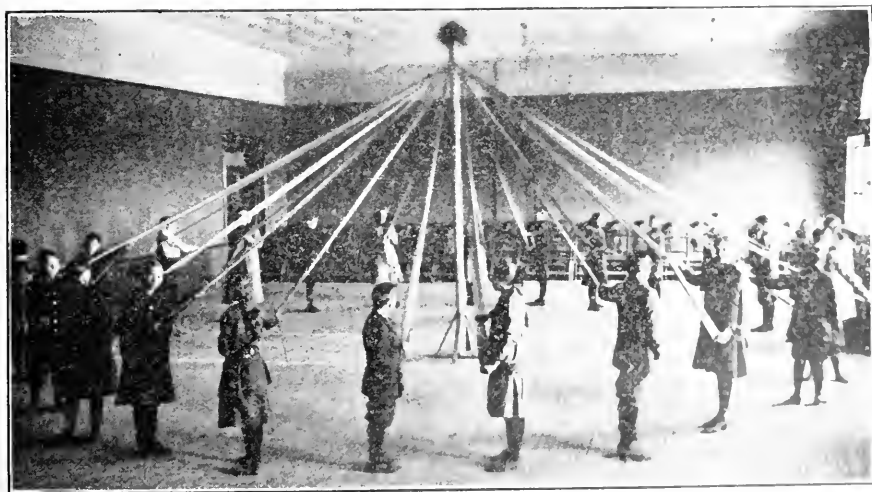
c. The May-Pole

Music: Any march.

Number: Any even number above 12. Twenty-four children are shown in the cut.

Material: A May-pole which stands twelve or fourteen feet high. Streamers (one for each child) about four inches wide, and at least six feet longer than the pole. Paper cambric is often used for the streamers and serves very well. Two colors are necessary, the outside people having one color, the inside people the other color.

Formation: In couples around the pole, each person standing with the right hand toward the pole, and each couple standing opposite the streamers they will use in winding the pole, with inside hands joined and outside hand on the hip.



MAY-POLE PLAY.

Part I. Point the left toe forward and hold hands at shoulder height. 32 counts.

Part II. Skip around the pole. 32 counts.

Part III. Join hands in a single circle, all facing the pole. Hold hands high and move forward toward the pole, 8 counts. Move backward and low. 8 counts. Repeat 16 counts.

Part IV. Face partner, join right hands, exchange places and bow. 8 counts. Continue through 32 counts. (Do not hurry this movement.)

Part V. Swing into a single circle, all facing the pole and with a sliding step move to the left 16 counts. Move to right 16 counts.

Part VI. Same as III. On last 8 counts take colors, ready for winding. Face partner.

Part VII. Weave streamers in and out, each person going around the pole three times.

Part VIII. Turn around and unwind. (If the strain of music is not finished when all have reached their places, just stand in place facing the pole until the strain is finished.)

Part IX. Step to left 1, swing streamers to left and swing right foot to left 2, step to right 3, swing streamers to right and swing left foot to right 4. Continue through 32 counts.

Part X. Forward to pole 8, backward 8, forward 8, backward 8, and on the eighth count drop the streamers.

Part XI. Each person turn so the right hand is toward the pole. Place left hand on hip and skip around once waving adieu to the pole. Lead away.

MEMORY GEMS

BOOKS

1. Laws die, books never.—*Lytton*.
2. There is no past so long as books live.—*Lytton*.
3. Yes, there is a choice in books as in friends; and the mind sinks or rises to the level of its habitual society—for they too, insensibly give away their own nature to the mind that converses with them.—*Holmes*.
4. No book can be so good as to be profitable when negligently read.—*Seneca*.
5. That is a good book that is opened with the expectation and closed with profit.—*Alcott*.
6. Books are the best things, well used; abused, among the worst.—*Emerson*.
7. If time is precious no book that will not improve by repeated readings deserves to be read at all.—*Carlyle*.
8. Some books are to be tasted, others to be swallowed, and some few to be chewed and digested.—*Bacon*.
9. God be thanked for books. They are the voices of the distant and the dead and make us heirs of the spiritual life of past ages.—*Channing*.

EDUCATION

1. Ignorance never settles questions.—*Disraeli*.
2. Education makes one an articulate member of the higher whole.—*Dr. Wm. T. Harris*.
3. I have a firm belief that the rock of our safety as a nation lies in the proper education of our population.—*Benjamin Harrison*.
4. Every man must educate himself. His books and teacher are but helps; the work is his.—*Webster*.
5. If a man empties his purse into his head, no man can take it away from him.—*Franklin*.
6. Education is the only interest worthy the deep controlling anxiety of the thoughtful man.—*Wendell Phillips*.
7. Those who think must govern those who toil.—*Goldsmith*.
8. Education commences at the mother's knee, and every word spoken within the hearing of little children tends toward the formation of character.
—*Ballou*.
9. Education is to know for the sake of living, not to live for the sake of knowing.—*Kate Douglas Wiggin*.
10. Education begins the gentleman, but reading, good company, and reflection must finish him.—*Locke*.

HABITS

1. Habit is the deepest law of human nature.—*Carlyle*.
2. We first make our habits, then our habits make us.—*Dryden*.

3. The habits of time are the soul's dress for eternity.—*Cheever*.
4. Men are but children of a larger growth.—*Dryden*.
5. Habit is a cable; we weave a thread of it each day, and it becomes so strong we cannot break it.—*Horace Mann*.
6. The chains of habit are generally too small to be felt until they are too strong to be broken.—*Johnson*.
7. Sow an act and you reap a habit; sow a habit and you reap a character; sow a character and you reap a destiny.—*Boardman*.
8. We sleep, but the loom of life never stops; and the pattern which was weaving when the sun went down is weaving when it comes up to-morrow.—*Beecher*.
9. Habits, though in their commencement like the filmy line of the spider, trembling at every breeze, may in the end prove as links of tempered steel, binding a deathless being to eternal felicity or eternal woe.—*Mrs Sigourney*.

PERSEVERANCE

1. I will find a way or make one.—*Hannibal*.
2. God helps them that help themselves.—*Franklin*.
3. All that's great and good is done just by patient trying.—*Phoebe Cary*.
4. Be firm! One constant element in luck
Is genuine, solid, Old Teutonic pluck.
—*Holmes*.
5. The men who try to do something and fail are infinitely better than those who try to do nothing and succeed.—*Lloyd Jones*.
6. We shall escape the uphill by never turning back.—*Rosetti*.
7. In the lexicon of youth which fate reserves for a bright manhood, there is no such word as fail.—*Lytton*.
8. Attempt the end and never stand to doubt;
Nothing's so hard but search will find it out.
—*Herrick*.
9. Heaven is not gained at a single bound,
But we build the ladder by which we rise
From the lowly earth to the vaulted skies,
And we mount to its summit round by round.
—*Holland*.
10. The heights by great men reached and kept
Were not attained by sudden flight;
But they, while their companions slept,
Were toiling upward in the night.
—*Longfellow*.
11. We rise by things that are under our feet,
By what we have mastered of good or gain,
By the hopes despoiled and the passions slain
And the conquered ills that we daily meet.
—*Longfellow*.

KINDNESS

1. Kindness has resistless charms.—*Rochester*.
2. With malice toward none, with charity for all.—*Lincoln*,

3. It is true that he who does nothing for others, does nothing for himself.
4. Kind hearts are more than coronets, and simple faith than Norman blood.
—*Tennyson*.
5. Kindness—a language which the dumb can speak and the deaf can understand.—*Bovee*.
6. That best portion of a good man's life,—
His little, nameless, unremembered acts of kindness and of love.
—*Wordsworth*.
7. Count that day lost whose low descending sun,
Views from thy hand no worthy action done.
—*Anon*.
8. There's nothing so kingly as kindness,
And nothing so royal as truth.
—*Anon*.
9. Be good, my child, and let who will be clever;
Do noble deeds, not dream them, all day long;
And so make life, death and that vast forever,
One grand, sweet song.
Kingsley.
10. In simple manners all the secret lies,
Be kind and virtuous, you'll be blest and wise.
—*Young*.
11. Life is not so short but that there's always time enough for courtesy.
—*Emerson*.
12. Oh, there are looks and tones that dart
An instant sunshine through the heart;
As if the soul that minute caught
Some treasure it through life had sought.
—*Moore*.

HONESTY

1. Boys, keep your record clean.—*John B. Gough*.
2. An honest man's the noblest work of God.—*Pope*.
3. Dare to be true; nothing can need a lie.—*Herbert*.
4. Falsehood is cowardice; truth is courage.—*Ballou*.
5. Truth is truth whether the individual man believes it or not. —*Moody*.
6. The first and worst of all frauds is to cheat one's self.—*Baile*y.
7. Nothing is at last sacred but the integrity of our own minds. —*Emerson*.
8. You measure every man's honesty by your own.—*Anon*.
9. There is only one failure in life possible, and that is not to be true to the best one knows.—*Farrar*.
10. Oh, what a tangled web we weave when first we practice to deceive. —*Scott*.
11. This above all,—to thine own self be true;
And it shall follow as the night the day,
Thou canst not then be false to any man.
—*Shakespeare*.

PATRIOTISM

1. The stability of this government and the unity of this nation, depend solely on the cordial support and the earnest loyalty of the people.—*U. S. Grant.*
2. I was born an American, I live an American, I shall die an American; and I intend to perform the duties incumbent upon me in that character to the end of my career.—*Webster.*
3. This nation under God shall have a new birth of freedom; and that government of the people, by the people, for the people, shall not perish from the earth.—*Lincoln.*
4. We cannot honor our country with too deep a reverence; we cannot love her with an affection too pure and fervent; we cannot serve her with an energy of purpose or a faithfulness of zeal too steadfast and ardent.—*Anon.*

MISCELLANEOUS

1. Progress—the stride of God!—*Victor Hugo.*
2. A merry heart doth good like a medicine.—*Proverbs.*
3. Nothing great was ever achieved without enthusiasm.—*Emerson.*
4. The sober second thought is always essential and seldom wrong.—*Van Buren.*
5. Faces are a record in sculpture of a thousand anecdotes of whim and folly.
—*Emerson.*
6. Let us beware of losing our enthusiasm.—*Phillips Brooks.*
7. Bad men excuse their faults;; good men correct them.—*Ben Johnson.*
8. The greatest of all faults is to be conscious of none.—*Carlyle.*
9. It is the great woe of life to feel all feeling die.—*Bailey.*
10. Discretion of speech is more than eloquence.—*Bacon.*
11. To persevere is one's duty and to be silent is the best answer to calumny.
—*Washington.*
12. Childhood is the bough where slumbered
Birds and blossoms many numbered,—
Age that bough with snow encumbered.
—*Longfellow.*
13. If you would live with ease,
Do what you ought, not what you please.
—*Franklin.*
14. If you wish a thing done, go; if not, send.—*Franklin.*
15. It is hard to be wise on an empty stomach.—*George Eliot.*
16. The groves were God's first temples.—*Bryant.*
17. Every man stamps his value upon himself.—*Schiller.*
18. I believe that in the long run the right side will be the strong side.—*Garfield.*
19. After all the best thanksgiving is thanks living.—*Anon.*
20. Cigarettes in boyhood are about as useful in building up a strong body as dynamite would be in building a house.—*W. F. Crafts.*
21. Fortune has rarely condescended to be the companion of genius.—*Disraeli.*

22. It isn't the thing you do, dear,
It's the thing you've left undone,
That gives you a bit of heartache,
At the setting of the sun.
—*Margaret Sangster.*
23. He prayeth best who loveth best
All things both great and small;
For the dear God who loveth us,
He made and loveth all.
—*Coleridge.*
24. He liveth long who liveth well,
All else is life but flung away;
He liveth longest who can tell
Of true things truly done each day.
—*Coleridge.*
25. In rose time or in berry time,
When ripe seeds fall or buds peep out,
When green the grass or white the rime,
There's something to be glad about.
—*Lucy Larcom.*
26. Whichever way the wind doth blow,
Some heart is glad to have it so.
Then blow it east or blow it west,
The wind that blows, that wind is best.
27. My strength is as the strength of ten,
Because my heart is pure.
—*Sir Galahad by Tennyson.*
28. Flower in the crannied wall,
I pluck you out of the crannies,
I hold you here, root and all, in my hand,
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is.
—*Tennyson.*
29. Hast thou named all the birds without a gun;
Loved the wood-rose, and left it on its stalk?
O be my friend, and teach me to be thine!
—*Emerson.*

e. Trades

Number of players: Any number.

Formation: Two teams, each standing back of a goal line. The goal lines may be any distance apart.

Game: After deciding how to represent some occupation, group number 1 advances toward group number 2, saying:

"Here are some men from Botany Bay

Got any work to give us today?"

Group number 2 asks: "

"What can you do?"

Group number 1 responds:

"Anything."

Group number 2 says:

"Set to work then!"

Immediately group number 1 begins pantomimic motions which are characteristic of the occupation they have chosen to represent. Group number 2 guesses what the motions indicate. If they guess correctly, then they may have an opportunity to represent some trade. Should group number 2 fail, then group number 1 has another trial. The instant a group guesses correctly, they may tag the players in the opposite group, and if any of them are caught before reaching their goal line, they must join the opposite group. The side winning all of the players is victorious. Much interest is added to the game when occupations are chosen which include *many* distinct movements.

2. Schoolroom

a. Japanese Crab Race

Number of players: Any number.

Formation: Arranged in a position to run backward on hands and feet, ("all fours"), with heels on a line.

Game: At a signal all the "crabs" start, each one trying to reach the goal line first. If there are players enough to have teams, much sport is added if the game is conducted as in club snatch. For example, allow four players to race at a time, two from each side. The ones crossing the goal line first and second, each scoring a point for his team. This game affords much fun for all, participants and observers.

b. Stride Ball

Number: 6 or more.

Material: A baseball or a basketball.

Formation: The players stand in two lines with feet apart.

Game: At a given signal player number 1 from each line starts the ball rolling down the line between the feet of the players. When the ball reaches the last player, he runs with it to the head of the line, and starts it down again. Play continues in this way until the first player of one line reaches his original position. This determines the winning team.

Should the ball stop at any time, or roll out between the feet, the player before whom this occurs must leave the line, get the ball, and start it on again.

V. *Rhythmic Plays for the Whole School*

1. On the Green

a. The Ribbon

Number: 12 or any multiple of twelve.

Material: A ribbon for each participant. A strip of paper cambric a yard long, and three or four inches wide, serves the purpose very well.

Formation: Partners facing in two lines. The couples are numbered from the front 1, 2, 3, 4, 5, 6. Hands joined by means of the ribbons.



RIBBON PLAY.

Part I. With four sliding steps the odd couples slide under the arms of the even couples, and at the same time the even couples take four sliding steps toward the odd couples. Reverse the movement. Repeat all from the beginning. 8 measures.

Part II. Couples 1 and 2 join right hands across in pin wheel fashion. Couples 3 and 4, 5 and 6 form in the same position. (Shown in the picture.) With eight skipping steps move around in a circle, at the same time waving ribbons in the opposite hand. Change hands and skip back to original position.

Part III. Couple number 6 forms an arch by joining hands across, while all other couples face toward the front, turn away from partners, and skip around to the end of the line and under the arch formed by couple number 6. As soon as all couples are in original places, couple number 6 slides down the middle to the end of the line and becomes couple number 1. This changes the number of each couple, and the dance may be repeated in this new formation.

Fading Light of Day	Gorter.
Avenue of Trees	Hobbema.
The Cornfield	Constable.
Sunset Glow	Rieke.
September	Zuber.
Deer by Moonlight	Hunt.
The Brookside	Hart.
Close of Day	Davis.
Young England	Douglas.
Breaking Home Ties	Hovenden.
The Broken Pitcher	Grueze.

CASTS

KINDERGARTEN AND PRIMARY GRADES

In the Round.

Infant St. John	Donatello.
Singing cherubs.	
Elephant running	Barye.
Rabbit reclining	Barye.

In Relief.

Bambino	Della Robbia.
Madonna and Child	Donatello.

INTERMEDIATE GRADES

In the Round.

St. George	Donatello.
Youthful St. John	Donatello.
Lion walking	Barye.
Panther reclining	Barye.

In Relief.

Madonna and Child	Michael Angelo.
Choir boys with book	Della Robbia.
Flight of time	Hunt.

GRAMMAR GRADES

In the Round.

Young Augustus.	
Sphinx, British Museum.	
Victory of Samothrace.	
David	Mercie.
Washington	Houdon.

In Relief.

Chariot race (starting).	
Triumph of Alexander.	
Choir boys with scroll	Della Robbia.
Angels bearing wreaths	Ghilberti.
Victory untying sandals.	

HIGH SCHOOL GRADES

In the Round.

Hermes of Olympia.
Apollo Belvidere.
Venus de Milo.
Sophocles.

Narcissus.	
Homer of Naples.	
Zeus Atricoli.	
Lorenzo de Medici	Michael Angelo.
David	Michael Angelo.

In Relief.

Victory dedicating a trophy.	
Bacchante (with arm above head).	
Apollo and the Muses.	
Angels with musical instruments	Donatello.
Sections of the Parthenon frieze.	
Cosmos Picture Co., New York.	Perry Picture Co., Malden, Mass.

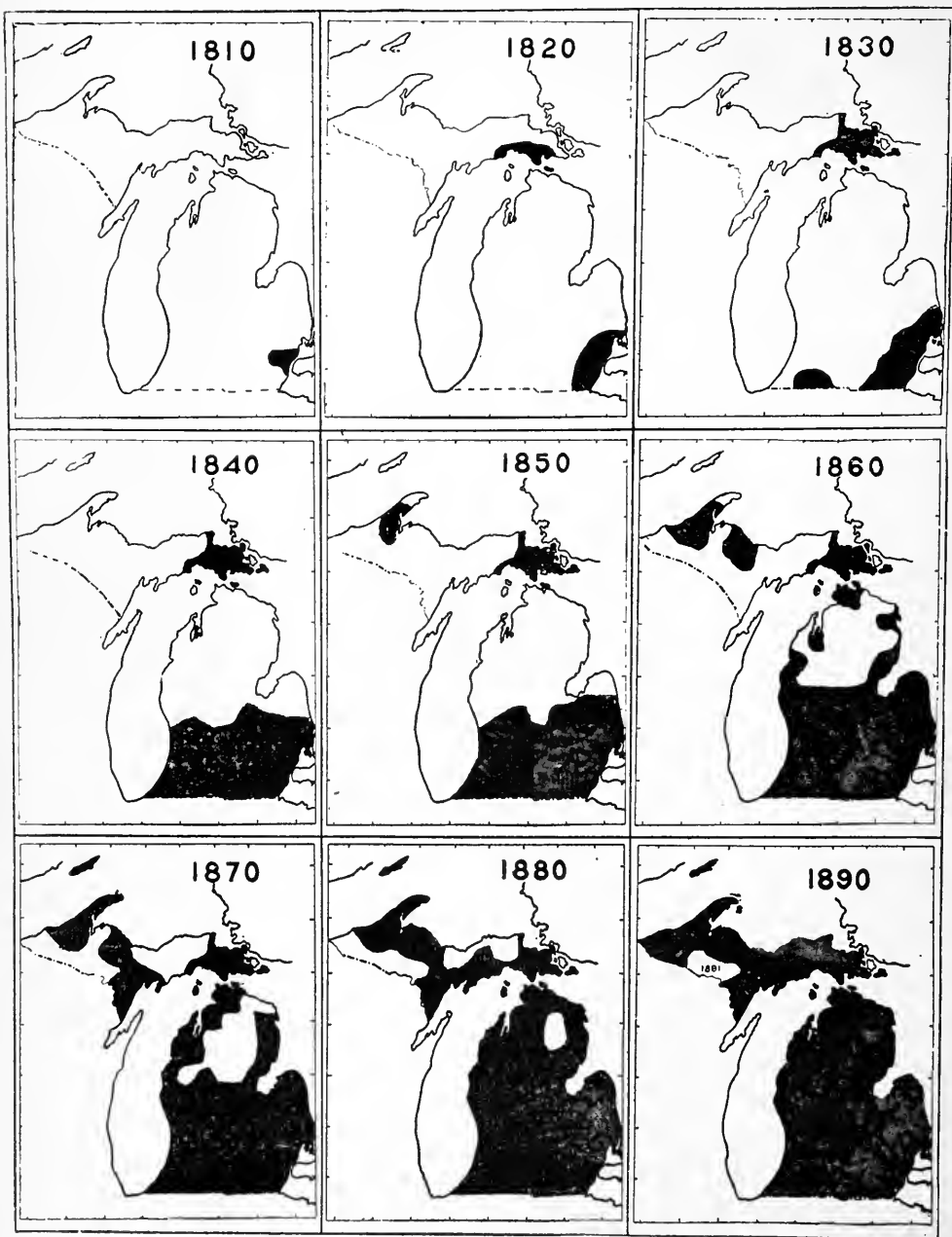
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LIST OF BOOKS FOR TEACHERS

Title.	Author.	Publisher.
Art of putting questions	W. T. Young	C. W. Bardeen.
Art of teaching	E. E. White	American Book Co.
Country life and the country school	Mabel Carney	Row, Peterson & Co.
Educational resources of village and rural communities	J. K. Hart	The Macmillan Co.
Education of man	Frederick Froebel	D. Appleton & Co.
Elementary psychology	N. A. Harvev	Row, Peterson & Co.
Elementary psychology	D. E. Phillips	Ginn & Co.
Evolution of Dodd	W. H. Smith	Rand, McNally & Co.
Farm boys and girls	McKeever	The Macmillan Co.
Health index of children	E. B. Hoag	Whitaker & Ray—Wiggin Co.
History of Michigan	L. T. Hemans	Hammond Pub. Co.
Jean Mitchell's school	A. W. Wray	Public School Pub. Co.
Manual of pedagogics	D. Putnam	Silver, Burdett & Co.
Michigan geography	L. H. Wood	Horton-Beimer Press.
Persimmons	A. C. Butler	C. M. Parker.
Primer of Michigan history	J. L. Cox	H. R. Patteuill.
Psychology and psychic culture	R. P. Hallack	American Book Co.
School life and education	E. P. Cudberley	Houghton, Mifflin Co.
School and society	John Dewey	McClure, Phillips & Co.
School sanitation and decoration	Burrage and Bailey	D. C. Heath & Co.
Studies in the history of modern education	C. O. Hoyt	Silver, Burdett & Co.
Teaching the common branches	Charters	Houghton, Mifflin Co.
The personality of the teacher	Chas. McKenny	Row, Peterson & Co.
The recitation	Hamilton	J. B. Lippincott Co.
The rural school: Its methods and management	Culter and Stone	Silver, Burdett & Co.
The school and its life	Gilbert	Silver, Burdett & Co.
The teacher	Mrs. Milner	Scott, Foresman & Co.
The theory of teaching	Salisbury	R. K. Row & Co.
Waymarks for teachers	Sarah L. Arnold	Silver, Burdett & Co.
What can literature do for me	C. A. Smith	Doubleday, Page & Co.
Wider use of the school plan	Perry	Russell Sage Foundation.



MAP SHOWING GROWTH IN POPULATION



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